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STRUCTURE FILE UPDATES: 23 APR 2006 HIGHEST RN 881543-45-9
DICTIONARY FILE UPDATES: 23 APR 2006 HIGHEST RN 881543-45-9

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TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

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*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Structure search iteration limits have been increased. See HELP SLIMITS
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<http://www.cas.org/ONLINE/UG/regprops.html>

=> d his ful

(FILE 'HOME' ENTERED AT 14:48:21 ON 24 APR 2006)

FILE 'HCAPLUS' ENTERED AT 14:48:32 ON 24 APR 2006

E US20020114604/PN
L1 1 SEA US2002114604/PN
D IALL
SEL RN

FILE 'REGISTRY' ENTERED AT 14:49:39 ON 24 APR 2006

L2 22 SEA (7664-38-2/BI OR 1066-51-9/BI OR 108-31-6/BI OR
D SCA
L3 1 SEA 556-52-5/RN
L4 1 SEA 108-31-6/RN
L5 1 SEA 156-57-0/RN
L6 1 SEA 13598-36-2/RN

FILE 'HCAPLUS' ENTERED AT 15:44:22 ON 24 APR 2006

L7 799 SEA L3/D OR L3/DP
L8 16148 SEA L4/D OR L4/DP

L9 1599 SEA L5
 L10 10260 SEA L6
 L11 1084 SEA L9(L)RCT/RL
 L12 1167 SEA L10(L)RCT/RL
 L13 2 SEA L11 AND L12
 L14 36 SEA L7 AND L8
 L15 1 SEA L14 AND L5 AND L6
 L16 2 SEA L13 OR L15

FILE 'REGISTRY' ENTERED AT 16:18:26 ON 24 APR 2006

L17 2178 SEA 556-52-5/CRN
 L18 24322 SEA 108-31-6/CRN
 L19 300 SEA L18 AND P/ELS
 L20 21 SEA L19 AND S/ELS
 L21 21 SEA L20 AND PMS/CI
 L22 1 SEA 75-21-8/RN
 L23 196994 SEA 1.30.1/RID
 L24 109895 SEA L23 AND PMS/CI
 L25 3390 SEA L24 AND P/ELS
 L26 271 SEA L25 AND S/ELS

FILE 'HCAPLUS' ENTERED AT 16:28:02 ON 24 APR 2006

L27 19 SEA L21
 L28 122 SEA L26
 L29 318916 SEA DIELEC?
 L30 0 SEA L27 AND L29
 L31 5 SEA L28 AND L29
 L32 0 SEA L31 AND COAT?
 L33 1334458 S BIOCHEMICAL/SC, SX
 L34 0 S L28 AND L33

FILE 'REGISTRY' ENTERED AT 16:43:27 ON 24 APR 2006

L16 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2002:638105 HCAPLUS Full-text
 DOCUMENT NUMBER: 137:181915
 TITLE: Phosphorus-containing polymers for optical
 signal transducers
 INVENTOR(S): Dorn, Ingmar; Kohler, Burkhard
 PATENT ASSIGNEE(S): Germany
 SOURCE: U.S. Pat. Appl. Publ., 12 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002114604	A1	20020822	US 2002-81628	20020220
DE 10108483	A1	20020905	DE 2001-10108483	20010222
CA 2438648	AA	20020906	CA 2002-2438648	200202

Applicant

WO 2002068481

A1

20020906

WO 2002-EP1399

11

200202

11

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,
CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM,
AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,
CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT,
SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
SN, TD, TG

EP 1366088

A1

20031203

EP 2002-704708

200202

11

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

JP 2004528414

T2

20040916

JP 2002-567990

200202

11

PRIORITY APPLN. INFO.:

DE 2001-10108483

A

200102

22

WO 2002-EP1399

W

200202

11

AB Phosphorus-contg. polymers suitable for coating dielec. surfaces are described by the general formulas $P(A)_m(F)_{n1}(U)_{o1}$ (I) and $P(A)_m(UF_{n2})_{o2}$ (II) (P = (un)branched, (un)crosslinked homo- or heteropolymeric polymer component; A = identical or different phosphorus-contg. groups bonded to P; m = .apprx.3-1000, F = identical or different functional groups bonded directly or indirectly to P; $n1$ = .apprx.1-1000; $n2$ = .apprx.1-100, U = identical or different (un)branched (un)crosslinked oligomeric or polymeric segments made up of identical or different monomers which are bonded to P; $o1$ = .apprx.0-1000, $o2$ = .apprx.1-1000). Methods for prepg. the polymers are described which entail copolymg. a monomer contg. a phosphorus-contg. group A, or a plurality of identical or different monomers contg. identical or different phosphorus-contg. groups A, with a monomer contg. a functional group F, or a plurality of identical or different monomers contg. identical or different functional groups F, and optionally, a monomer contg. a segment U, or a plurality of identical or different monomers contg. identical or different segments U, to form I, or with a monomer contg. a unit $(UF_{n2})_{o2}$, or a plurality of identical or different monomers contg. identical or different units of the formula $(UF_{n2})_{o2}$, to form II. The use of the polymers for coating dielec. materials, in particular dielec. waveguides, and optical signal transducers with dielec. waveguides coated by the polymers are also described. The optical signal transducers having a coated dielec. waveguides may be used for immobilizing chem. and/or biochem. recognition elements.

IT 108-31-6DP, Maleic Acid Anhydride, reaction products with polyglycidols 556-52-5DP, Glycidol, reaction products with fatty acids and phosphoric acid

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(phosphorus-contg. polymers and their prepn. and their use for coating dielec. waveguides and optical signal transducers using coated waveguides)

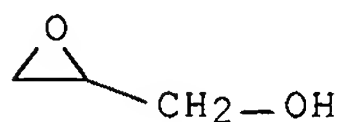
RN 108-31-6 HCAPLUS

CN 2,5-Furandione (9CI) (CA INDEX NAME)



RN 556-52-5 HCAPLUS

CN Oxiranemethanol (9CI) (CA INDEX NAME)



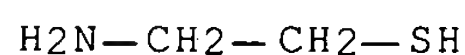
IT 156-57-0 13598-36-2, Phosphonic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(phosphorus-contg. polymers and their prepn. and their use for coating dielec. waveguides and optical signal transducers using coated waveguides)

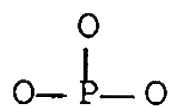
RN 156-57-0 HCAPLUS

CN Ethanethiol, 2-amino-, hydrochloride (8CI, 9CI) (CA INDEX NAME)



RN 13598-36-2 HCAPLUS

CN Phosphonic acid (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

IC ICM G02B006-22

ICS C08K005-49

INCL 385128000

CC 9-2 (Biochemical Methods)

Section cross-reference(s): 3, 7, 15, 38, 79, 80

IT 108-31-6DP, Maleic Acid Anhydride, reaction products with polyglycidols 556-52-5DP, Glycidol, reaction products with fatty acids and phosphoric acid 1066-51-9DP, Aminomethanephosphonic acid, reaction products with polymers 1746-03-8DP, Vinylphosphonic acid, reaction products with polyglycidols 7664-38-2DP, Phosphoric acid, reaction products with

polylysine salts 7664-38-2DP, Phosphoric acid, reaction products with polymers 9002-89-5DP, Polyvinyl alcohol, reaction products with polyphosphoric acid 9011-16-9DP, Maleic anhydride-methyl vinyl ether copolymer, reaction products with aminomethanephosphonic acid 9041-77-4P, Dextran phosphate 17261-34-6DP, Iminobismethylene Phosphonic Acid, reaction products with polyglycidols 21282-97-3DP, reaction products with polyglycidols and vinylphosphonic acid 25988-63-0DP, Poly-L-lysine hydrobromide, reaction products with phosphoric acid 26588-20-5DP, reaction products with phosphoric acid 69680-04-2DP, reaction products with phosphoric acid 98980-94-0DP, reaction products with iminobismethylene phosphonic acid and maleic acid anhydride 449188-13-0P

RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PREP (Preparation); PROC (Process); USES (Uses)

(phosphorus-contg. polymers and their prepn. and their use for coating dielec. waveguides and optical signal transducers using coated waveguides)

IT 156-57-0 13598-36-2, Phosphonic acid

RL: RCT (Reactant); RACT (Reactant or reagent)

(phosphorus-contg. polymers and their prepn. and their use for coating dielec. waveguides and optical signal transducers using coated waveguides)

L16 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1990:572165 HCAPLUS Full-text

DOCUMENT NUMBER: 113:172165

TITLE: Phosphonomethylation of aminoalkanols.
Preparation of 4-(phosphonomethyl)-2-hydroxy-2-oxo-1,4,2-oxazaphosphorinanes

AUTHOR(S): Dhawan, Balram; Redmore, Derek

CORPORATE SOURCE: Petrolite Corp., St. Louis, MO, 63119, USA

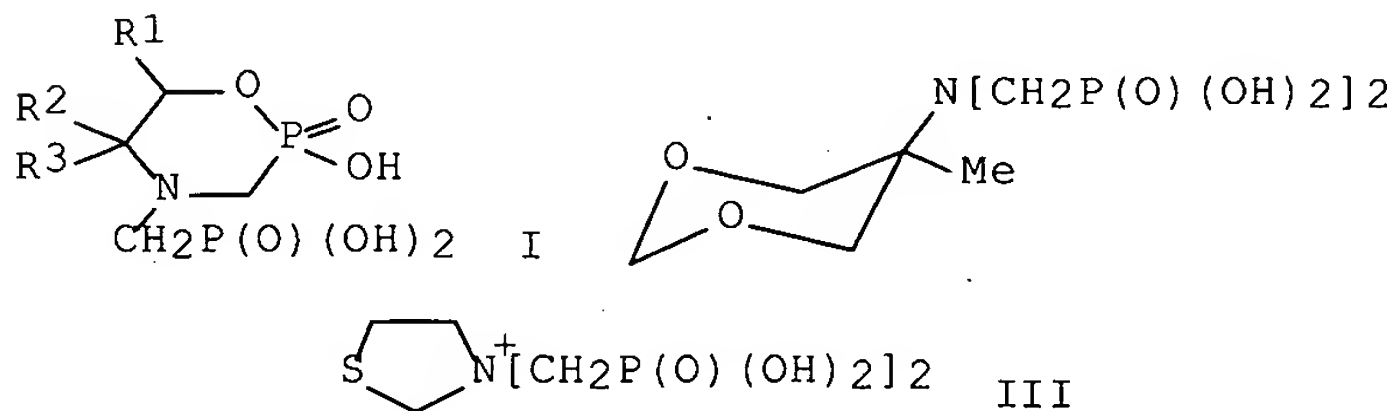
SOURCE: Phosphorus, Sulfur and Silicon and the Related Elements (1990), 48(1-4), 41-7
CODEN: PSSLEC; ISSN: 1042-6507

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 113:172165

GI



AB Treatment of aminoalkanols HOCHR₁CR₂R₃NH₂ (R₁ = H, Me, Ph; R₂ = H, Me; R₃ = H, Me, Et) with phosphorous acid and formaldehyde in the presence of concd.

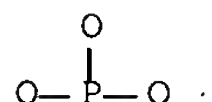
hydrochloric acid gave mixts. of [(2-hydroxyalkyl)imino]dimethylenediphosphonic acids $\text{HOCHR}_1\text{CR}_2\text{R}_3\text{N}[\text{CH}_2\text{P}(\text{O})(\text{OH})_2]_2$ and 4-(phosphonomethyl)-2-hydroxy-2-oxo-1,4,2-oxazaphosphorinanes I, which were isolated as cryst. solids. Similar treatment of 2-amino-2-methyl-1,3-propanediol gave a complex mixt. from which dioxane II was isolated. 2-Aminoethanethiol, when subjected to phosphonomethylation, gave an unexpected novel quaternary nitrogen product III. N-Alkylaminoalkanols on phosphonomethylation gave 3:1 mixts. of [N-alkyl-N-(2-hydroxyalkyl)amino]methanephosphonic acids and N-alkyl-2-hydroxy-2-oxo-1,4,2-oxazaphosphorinanes. Treatment of the crude mixts. of the 2 products with aq. sodium hydroxide gave disodium salts of [N-alkyl-N-(2-hydroxyalkyl)amino]methanephosphonic acids. The ratio of the cyclic to the open chain structures obtained as well as the formation of any unexpected novel products is dependent on the structure of the aminoalkanol that is phosphonomethylated. The ^1H , ^{13}C and ^{31}P spectra are reported.

IT 13598-36-2, Phosphonic acid

RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphonomethylation by formaldehyde and, of aminoalkanols)

RN 13598-36-2 HCAPLUS

CN Phosphonic acid (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



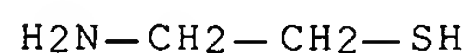
ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

IT 156-57-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphonomethylation of)

RN 156-57-0 HCAPLUS

CN Ethanethiol, 2-amino-, hydrochloride (8CI, 9CI) (CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)

IT 13598-36-2, Phosphonic acid

RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphonomethylation by formaldehyde and, of aminoalkanols)

IT 78-96-6 96-20-8 109-83-1 110-73-6 115-69-5,
2-Amino-2-methyl-1,3-propanediol 124-68-5 141-43-5, reactions
156-57-0 7568-93-6, 2-Amino-1-phenylethanol

RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphonomethylation of)

=> d 127 ibib abs hitstr hitind 1-19

L27 ANSWER 1 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1291776 HCAPLUS Full-text

DOCUMENT NUMBER: 144:43234

TITLE: Photosensitive polyimide precursor composition
 containing benzoazole backbone structure polymer
 INVENTOR(S): Imahashi, Satoshi; Wakui, Hiroyuki; Honda,
 Naohiro
 PATENT ASSIGNEE(S): Toyo Boseki Kabushiki Kaisha, Japan
 SOURCE: PCT Int. Appl., 121 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005116770	A1	20051208	WO 2005-JP9770	20050527
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005338719	A2	20051208	JP 2004-161177	20040531
JP 2005345537	A2	20051215	JP 2004-161977	20040531
JP 2005345544	A2	20051215	JP 2004-162022	20040531
JP 2005351986	A2	20051222	JP 2004-170414	20040608
JP 2005351987	A2	20051222	JP 2004-170416	20040608
JP 2006058324	A2	20060302	JP 2004-236920	20040817
JP 2006084853	A2	20060330	JP 2004-270232	20040916
PRIORITY APPLN. INFO.:			JP 2004-161177	A
				20040531
			JP 2004-161977	A
				20040531
			JP 2004-162022	A

		200405 31
JP 2004-170414	A	200406 08
JP 2004-170416	A	200406 08
JP 2004-236920	A	200408 17
JP 2004-270232	A	200409 16
JP 2005-68995	A	200503 11
JP 2005-68996	A	200503 11
JP 2005-68997	A	200503 11
JP 2005-68998	A	200503 11
JP 2005-68999	A	200503 11

AB Disclosed is a photosensitive polyimide precursor compn. capable of forming a resin film which has low thermal expansion coeff., thereby suffering less from lowering of adhesion to a base or warping of the base and being free from deterioration in elec. characteristics, resolu. or the like. Such a photosensitive polyimide precursor compn. is characterized by contg. a polyimide precursor having a benzoazole skeleton in the main chain while having a specific group in a side chain or in the main chain, and if necessary a sensitizer. Since this photosensitive polyimide precursor compn. has a low thermal expansion coeff. after polyimidation, the thermal expansion coeff. difference between a base with low thermal expansion coeff. such as a silicon wafer and a polyimide obtained by applying and thermally cyclizing the photosensitive polyimide precursor compn. on the base can be small. In addn., since adhesion between the base and the polyimide is good and warping can be suppressed while maintaining good developability and sensitivity, there can be obtained a good pattern.

IT 870776-53-7P

RL: IMF (Industrial manufacture); NUU (Other use, unclassified);

PREP (Preparation); USES (Uses)

(prepn. of photosensitive polyimide having benzoazole backbone structure)

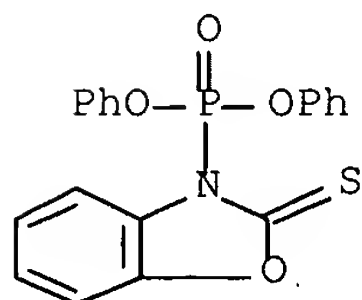
RN 870776-53-7 HCAPLUS

CN Phosphonic acid, (2-thioxo-3(2H)-benzoxazolyl)-, diphenyl ester,
polymer with 1H,3H-benzo[1,2-c:4,5-c']difuran-1,3,5,7-tetrone,
2,5-furandione and 4,4'-oxybis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 111160-56-6

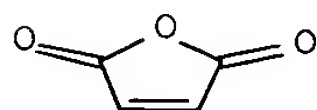
CMF C19 H14 N O4 P S



CM 2

CRN 108-31-6

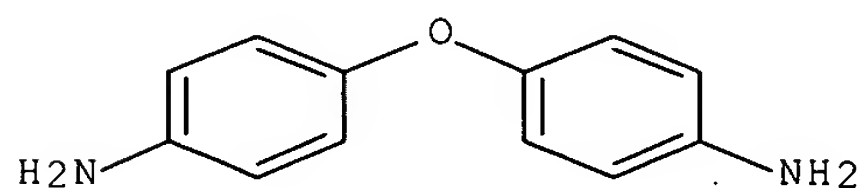
CMF C4 H2 O3



CM 3

CRN 101-80-4

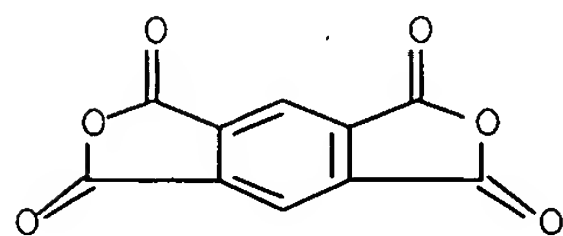
CMF C12 H12 N2 O



CM 4

CRN 89-32-7

CMF C10 H2 O6



IC ICM G03F007-039
 ICS G03F007-022; G03F007-038; H01L021-027
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and
 Other Reprographic Processes)
 Section cross-reference(s): 35, 38, 76
 IT 870776-43-5P 870776-45-7P 870776-47-9P 870776-48-0P
 870776-49-1P 870776-51-5P **870776-53-7P**
 RL: IMF (Industrial manufacture); NUU (Other use, unclassified);
 PREP (Preparation); USES (Uses)
 (prepn. of photosensitive polyimide having benzoazole backbone
 structure)
 REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L27 ANSWER 2 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2005:295977 HCAPLUS Full-text
 DOCUMENT NUMBER: 142:374635
 TITLE: Method for preparing copolymer terminated with
 multigroups containing ether, phosphonic acid
 and sulfocarboxylic acid for multifunctional
 water treating agent
 INVENTOR(S): Gao, Tongzhu
 PATENT ASSIGNEE(S): Peop. Rep. China
 SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 16
 pp.
 CODEN: CNXXEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
CN 1458172	A	20031126	CN 2003-122759	200304 20
PRIORITY APPLN. INFO.:			CN 2003-122759	200304 20

AB The multigroup-terminated copolymer with mol. wt. <10,000 is prepd. by soln.
 copolymerized by mixing an unsatd. carboxylic acid monomer, an unsatd.
 noncarboxylic acid-type monomer, an unsatd. nonacid monomer a bactericidal
 monomer in the presence of water, ≥1 water-sol. initiator, H₃PO₃ or its salt,
 H₃PO₂ or its salt, and a water-sol. metal salt. The multifunctional water-
 treating agent comprises (1) the multigroup-terminated copolymer 20-70, (2) a
 polycarboxylic acid copolymer 10-50, (3) a phosphono-carboxylic acid or
 phosphono-sulfo-carboxylic acid 5-20, (4) an organobromine bactericide 3-10,
 (5) an aldehyde bactericide 3-10, (6) an organophosphorus bactericide 3-10,
 (7) a zinc salt 8-15, (8) an organophosphorus corrosion inhibitor 8-20, (9) a
 Cu corrosion inhibitor 1-10, (10) a cleaning aid 2-10% and (11) water to 100%.
 IT **849416-10-0P**, 2-Acrylamido-2-methylpropanephosphonic
 acid-2-acrylamido-2-methylpropanesulfonic acid-acrylic
 acid-acryloylmorpholine-glycerol allyl ether-itaconic acid-maleic
 anhydride copolymer
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM
 (Technical or engineered material use); PREP (Preparation); USES

(Uses)

(method for prepg. copolymer terminated with multigroups contg. ether, phosphonic acid and sulfocarboxylic acid for multifunctional water treating agent)

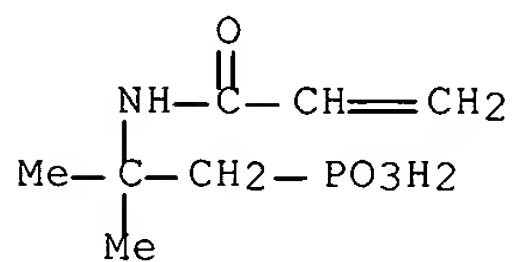
RN 849416-10-0 HCAPLUS

CN Butanedioic acid, methylene-, polymer with 2,5-furandione, 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid, [2-methyl-2-[(1-oxo-2-propenyl)amino]propyl]phosphonic acid, 4-(1-oxo-2-propenyl)morpholine, 2-propenoic acid and 2(or 3)-(2-propenyloxy)-1,?-propanediol (9CI) (CA INDEX NAME)

CM 1

CRN 88701-03-5

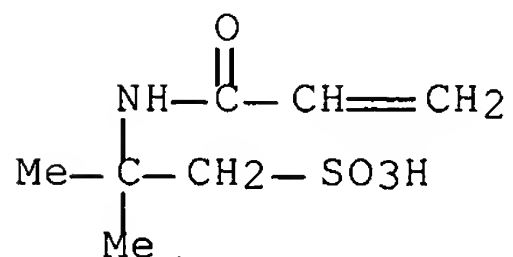
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CRN 15214-89-8

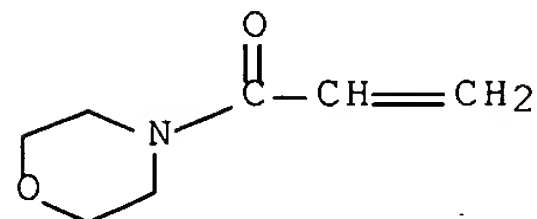
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CM 3

CRN 5117-12-4

CMF C7 H11 N O2



CM 4

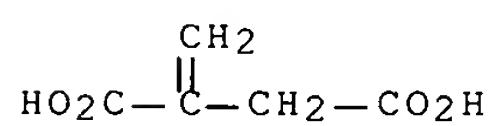
CRN 108-31-6

CMF C4 H2 O3



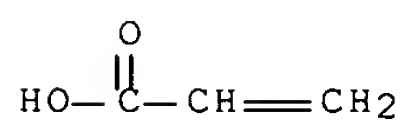
CM 5

CRN 97-65-4
CMF C5 H6 O4



CM 6

CRN 79-10-7
CMF C3 H4 O2

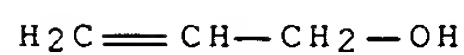


CM 7

CRN 25136-53-2
CMF C6 H12 O3
CCI IDS

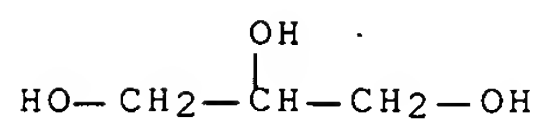
CM 8

CRN 107-18-6
CMF C3 H6 O



CM 9

CRN 56-81-5
CMF C3 H8 O3



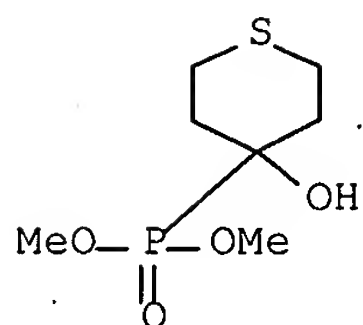
IC ICM C08F002-38
ICS C08F218-02; C02F005-14
CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 61
IT **849416-10-0P**, 2-Acrylamido-2-methylpropanephosphonic
acid-2-acrylamido-2-methylpropanesulfonic acid-acrylic
acid-acryloylmorpholine-glycerol allyl ether-itaconic acid-maleic
anhydride copolymer 849416-12-2P, 2-Acrylamido-2-
methylpropanesulfonic acid-acrylic acid-acryloylmorpholine-glycerol
allyl ether-itaconic acid-maleic anhydride copolymer 849416-14-4P,
Acrylic acid-acryloylmorpholine-glycerol allyl ether-
isoprenesulfonic acid-maleic anhydride copolymer 849416-16-6P,
2-Acrylamido-2-methylpropanephosphonic acid-acrylic
acid-acryloylmorpholine-glycerol allyl ether-1,2-dihydroxy-3-butene-
itaconic acid-maleic anhydride copolymer 849416-17-7P,
2-Acrylamido-2-methylpropanesulfonic acid-acrylic
acid-acryloylmorpholine-glycerol allyl ether-isoprenesulfonic
acid-itaconic acid-maleic anhydride copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM
(Technical or engineered material use); PREP (Preparation); USES
(Uses)
(method for prepg. copolymer terminated with multigroups contg.
ether, phosphonic acid and sulfocarboxylic acid for
multifunctional water treating agent)

L27 ANSWER 3 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:511037 HCAPLUS Full-text
DOCUMENT NUMBER: 141:296396
TITLE: Effect of heteroatoms on the immobilization of
heterocycles on polymer supports
AUTHOR(S): Meirova, G.; Zhubanov, B. A.; Tukanova, S. K.
CORPORATE SOURCE: Inst. Khim. Nauk im. A. B. Bekturova, MON RK,
Almaty, Kazakhstan
SOURCE: Izvestiya Natsional'noi Akademii Nauk Respubliki
Kazakhstan, Seriya Khimicheskaya (2003), (6),
57-59
CODEN: INANDJ
PUBLISHER: Nauchno-Izdatel'skii Tsentr "Gylym"
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Styrene-maleic anhydride copolymer was modified by esterification with 4-
dimethoxyphosphonyl-4-tetrahydropyranol and 4-dimethoxyphosphonyl-4-
tetrahydrothiapyranol carried out at 75-95° in DMSO in the presence of
triethylamine. Structure of the prepd. product is proved by IR spectroscopy.
IT **765301-16-4P**, Maleic anhydride-styrene copolymer, ester with
4-dimethoxyphosphonyl-4-tetrahydrothiapyranol
RL: SPN (Synthetic preparation); PREP (Preparation)
(effect of heteroatoms on the immobilization of heterocycles on
polymer supports)
RN 765301-16-4 HCAPLUS
CN 2,5-Furandione, polymer with ethenylbenzene, 4-
(dimethoxyphosphinyl)tetrahydro-2H-thiopyran-4-yl ester (9CI) (CA
INDEX NAME)

CM 1

CRN 163192-85-6
CMF C7 H15 O4 P S



CM 2

CRN 9011-13-6

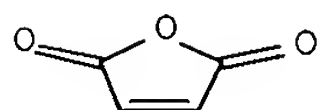
CMF (C8 H8 . C4 H2 O3)x

CCI PMS

CM 3

CRN 108-31-6

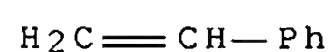
CMF C4 H2 O3



CM 4

CRN 100-42-5

CMF C8 H8



CC 35-8 (Chemistry of Synthetic High Polymers)

IT 765301-15-3P, Maleic anhydride-styrene copolymer, ester with 4-dimethoxyphosphonyl-4-tetrahydropyranol 765301-16-4P,

Maleic anhydride-styrene copolymer, ester with 4-dimethoxyphosphonyl-4-tetrahydrothiapyranol

RL: SPN (Synthetic preparation); PREP (Preparation)

(effect of heteroatoms on the immobilization of heterocycles on polymer supports)

L27 ANSWER 4 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:391390 HCAPLUS Full-text

DOCUMENT NUMBER: 140:391889

TITLE: Photoreactive compositions, photocurable compositions, and photoreactive adhesives or sealing materials

INVENTOR(S): Hatta, Bungo; Fukui, Hiroshi; Kawabata, Kazuhiro

PATENT ASSIGNEE(S): Sekisui Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 26 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004137433	A2	20040513	JP 2002-305968	20021021
PRIORITY APPLN. INFO.:				20021021

AB Title compns. comprise (A) $XmR3$ -mSi-contg. compds. (X = hydrolyzable group; R = hydrocarbyl; m = 1-3), (B) $C(:O)YnZn-2C(:O)-$ contg. compds. (n = 2-5; Y = Group IVA, VA, VIA element; Z = H, hydrocarbyl, OH, SH, amino, halo, alkoxy, alkylthio, carbonyloxy, O), and (C) isocyanate-contg. compds. Thus, ESS 3630 (A), maleic anhydride, Irgacure 819 [bis(2,4,6-trimethylbenzoyl)phenylphosphine] oxide, and Desmodur RFE [tris(isocyanatophenyl) thiophosphate] were applied on a poly(ethylene terephthalate) film, irradiated with UV light, and kept at 20° and relative humidity 50% to give a test piece showing T-peel strength 1.00 N/cm.

IT 688048-65-9P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(photoreactive compns. for adhesives and sealants with good adhesion to polyesters)

RN 688048-65-9 HCAPLUS

CN 2,5-Furandione, polymer with Excestar ESS 3630 and O,O,O-tris(4-isocyanatophenyl) phosphorothioate (9CI) (CA INDEX NAME)

CM 1

CRN 473713-42-7

CMF Unspecified

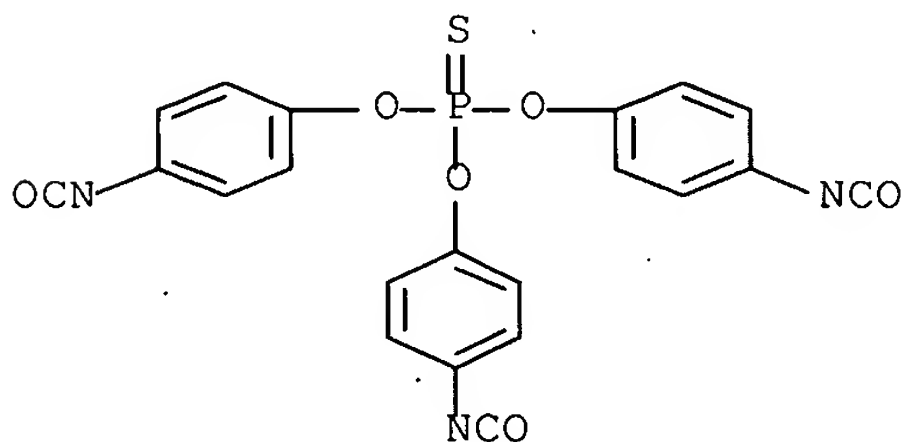
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 4151-51-3

CMF C21 H12 N3 O6 P S



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM C08G018-61
ICS C08K005-09; C08K005-29; C08L101-10; C09J175-04; C09J201-10;
C09K003-10; C08G077-04
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38
IT 685835-91-0P 685835-93-2P 688048-64-8P 688048-65-9P
688048-66-0P 688048-67-1P
RL: IMF (Industrial manufacture); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(photoreactive compns. for adhesives and sealants with good
adhesion to polyesters)

L27 ANSWER 5 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:660513 HCAPLUS Full-text
DOCUMENT NUMBER: 137:155531
TITLE: Sulfonate copolymer containing phosphorus and
its preparing process and application
INVENTOR(S): Tang, Shouyin; Huang, Jie; Dai, Youzhi; Rao,
Guichun; Jing, Guohua
PATENT ASSIGNEE(S): Xiangtan Univ., Peop. Rep. China; Research
Institute of Analysis and Testing
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 6
pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
CN 1313345	A	20010919	CN 2000-113316	200003 09
PRIORITY APPLN. INFO.:				CN 2000-113316 200003 09

AB The copolymer is prepd. by copolymn. of an org. anhydride, preferably, maleic anhydride (MA) with 2-acrylamido-2-methylpropanesulfonic acid (AMPS) and 2-acrylamido-2-methylpropanephosphonic acid (AMPP) in the presence of an initiator (peroxide, hypophosphorous acid or salt) in water at 60-90° for 1-6 h. The copolymer can be used as water treating agent, which imparts scale inhibition and corrosion inhibition to water having high alky., high hardness, and high pH value. A 10:4:1 MA-AMPS-AMPP copolymer was prepd. by polymn. using H2O2 and Na hypophosphite at 80° for 2 h.
IT 287931-30-0P, 2-Acrylamido-2-methylpropanephosphonic acid-2-acrylamido-2-methylpropanesulfonic acid-maleic anhydride

copolymer

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(sulfonate copolymer contg. phosphorus for water treatment agents)

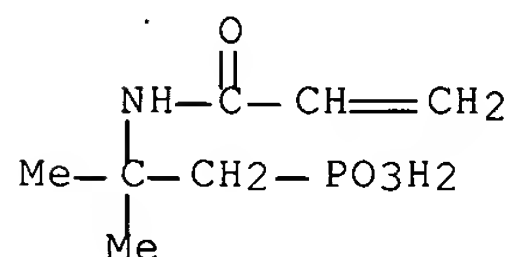
RN 287931-30-0 HCAPLUS

CN 1-Propanesulfonic acid, 2-methyl-2-[(1-oxo-2-propenyl)amino]-, polymer with 2,5-furandione and [2-methyl-2-[(1-oxo-2-propenyl)amino]propyl]phosphonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 88701-03-5

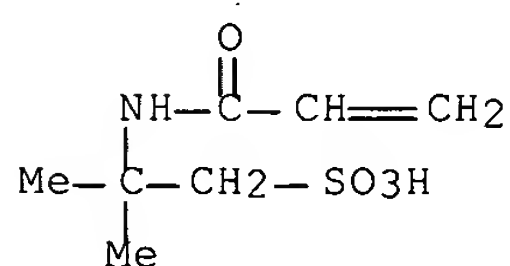
CMF C7 H14 N O4 P



CM 2

CRN 15214-89-8

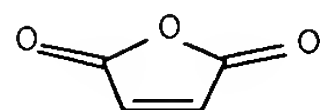
CMF C7 H13 N O4 S



CM 3

CRN 108-31-6

CMF C4 H2 O3



IC ICM C08F230-02

ICS C02F001-56

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 61

IT 287931-30-0P, 2-Acrylamido-2-methylpropanephosphonic acid-2-acrylamido-2-methylpropanesulfonic acid-maleic anhydride copolymer

RL: IMF (Industrial manufacture); TEM (Technical or engineered

material use); PREP (Preparation); USES (Uses)
(sulfonate copolymer contg. phosphorus for water treatment
agents)

L27 ANSWER 6 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:931063 HCAPLUS Full-text

DOCUMENT NUMBER: 136:370312

TITLE: Study of polymerization of maleic anhydride in
water

AUTHOR(S): Jing, Guo-hun; Tang, Shou-yin; Dai, You-zhi

CORPORATE SOURCE: Dep. Environmental Engineering, Xiangtan Univ.,
Xiangtan, 411105, Peop. Rep. China

SOURCE: Jingxi Huagong (2001), 18(11), 650-652

CODEN: JIHUFJ; ISSN: 1003-5214

PUBLISHER: Jingxi Huagong Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB A series of copolymers were prepd. under different ratio and dosage of some of
the five types of monomers and four groups of initiators with maleic anhydride
in water. The monomers were 2-acrylamido-2-methylpropanesulfonic acid (AMPS),
2-acrylamido-2-methylpropanephosphonic acid (AMPP), acrylic acid (AA),
acrylamide (AM) and Me acrylate. The initiation systems were persulfate-FeF₂,
H₂O₂-Fe²⁺, persulfate-hypophosphite and hydrogen peroxide-hypophosphite.
Anal. and comparison were done on the polymn. activity and the behavior of
copolymers in scale inhibition. AMPS could be used as a second monomer for
this system. Among the third monomers and initiation systems discussed, AMPP
and hydrogen peroxide-hypophosphite system were the best. Under the
conditions that the dosage of hypophosphite was 10% of the total wt. of
monomers (ratio of hydrogen peroxide to hypophosphite was 1.0 to 1.2), m(MA):
m(AMPS) = 8:6, m(MA):m(AMPS):m(AMPP) = 10:4:1 and the use level of copolymer
was 12 mg/L in inhibiting CaCO₃ and 18 mg/L in inhibiting Ca₃(PO₄)₂, the
polymn. rate of MA/AMPS copolymer and CaCO₃ and Ca₃(PO₄)₂ scale inhibitory
rate were 93.41%, 6.29% and 100% resp., while for the MA/AMPS/AMPP
polymer, polymn. rate and CaCO₃ and Ca₃(PO₄)₂ scale inhibitory rate were up to
92.80%, 97.61% and 95.92% resp.

IT 424821-39-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(polymn. of maleic anhydride in water)

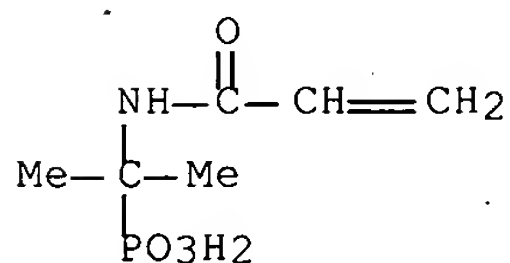
RN 424821-39-6 HCAPLUS

CN 2-Propanesulfonic acid, 2-[(1-oxo-2-propenyl)amino]-, polymer with
2,5-furandione and [1-methyl-1-[(1-oxo-2-
propenyl)amino]ethyl]phosphonic acid (9CI) (CA INDEX NAME)

CM 1

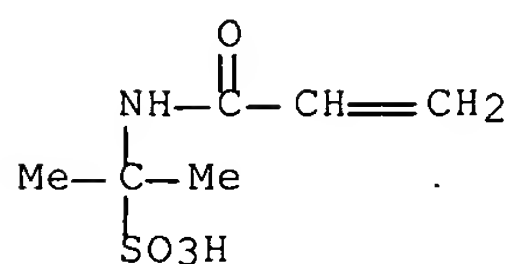
CRN 134423-58-8

CMF C6 H12 N O4 P



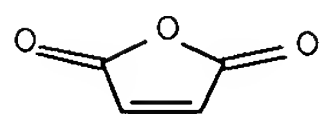
CM 2

CRN 69418-27-5
CMF C6 H11 N O4 S



CM 3

CRN 108-31-6
CMF C4 H2 O3



CC 37-3 (Plastics Manufacture and Processing)
IT 424821-38-5P **424821-39-6P** 424821-40-9P 424821-41-0P
424821-42-1P
RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)
(polymn. of maleic anhydride in water)

L27 ANSWER 7 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:874766 HCAPLUS Full-text
DOCUMENT NUMBER: 136:267808
TITLE: Preparation of scale inhibitor resistant to high
hardness, high alkalinity and high pH water
AUTHOR(S): Zhou, Zuo-ming; Jing, Guo-hua; Tang, Shou-yin;
Dai, You-zhi
CORPORATE SOURCE: Dep. Environmental Science, Human Agricultural
Univ., Changsha, 410128, Peop. Rep. China
SOURCE: Jingxi Huagong Zhongjianti (2001), 31(4), 21-24
CODEN: JHZIAR; ISSN: 1009-9212
PUBLISHER: Jingxi Huagong Zhongjianti Zazhishe
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB A copolymer was prepd. from maleic anhydride, 2-acrylamido-2-methylpropanesulfonic acid and 2-acrylamido-2-methylpropanephosphoric acid. The polymn. was initiated by hypophosphite sodium and peroxide in an aq. soln. Factors effecting on the polymn. rate, the scale inhibiting efficiency and dispersing ferric oxide ability, such as the ratio of monomers, the ratio of initiator, were investigated. Through static and dynamic scale inhibiting expt., the scale inhibiting efficiency of the copolymer was also tested under conditions of high hardness, high alky. and high pH. The results showed that the copolymer had a good polymn. rate. It was a good scale inhibitors for industrial circular cooling water of high hardness, high alky. and high pH.

IT **405095-72-9P**
RL: NUU (Other use, unclassified); PNU (Preparation, unclassified);
PREP (Preparation); USES (Uses)

(prepn. of scale inhibitor resistant to high hardness and high alky. and high pH water)

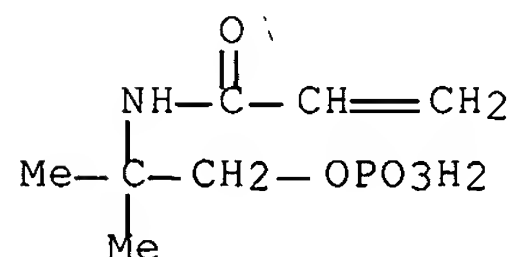
RN 405095-72-9 HCAPLUS

CN 1-Propanesulfonic acid, 2-methyl-2-[(1-oxo-2-propenyl)amino]-, polymer with N-[1,1-dimethyl-2-(phosphonooxy)ethyl]-2-propenamide and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 61005-19-4

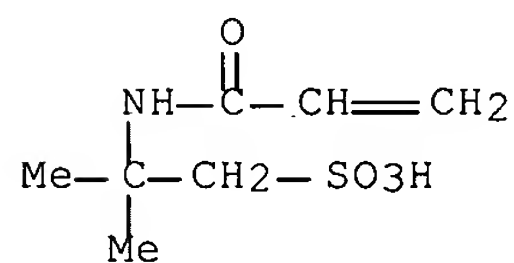
CMF C7 H14 N O5 P



CM 2

CRN 15214-89-8

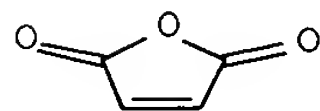
CMF C7 H13 N O4 S



CM 3

CRN 108-31-6

CMF C4 H2 O3



CC 61-8. (Water)

IT 405095-72-9P

RL: NUU (Other use, unclassified); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(prepn. of scale inhibitor resistant to high hardness and high alky. and high pH water)

L27 ANSWER 8 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:828822 HCAPLUS Full-text

DOCUMENT NUMBER: 134:20674

TITLE: Cement dispersant and cement composition having

INVENTOR(S): high fluidity and fast setting property
 Ogawa, Shoichi; Ichimura, Takao
 PATENT ASSIGNEE(S): Taiheiyo Cement Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000327386	A2	20001128	JP 1999-133486	19990514

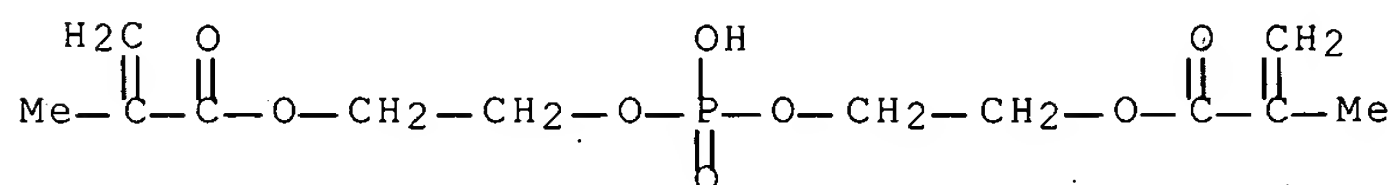
PRIORITY APPLN. INFO.: JP 1999-133486
 19990514

AB The cement dispersant contains, as the main component, a polymer from polyalkylene glycol chain-contg. monoester or monoether and monomer having unsatd. bond and phosphoric group. The cement compn. contains the cement dispersant at 0.01-1.0 wt. part/100 wt. parts of the cement compn. The cement dispersant improves the fluidity and setting of the cement compns. (e.g., mortar) regardless the water/cement ratio.

IT 309918-42-1
 RL: TEM (Technical or engineered material use); USES (Uses)
 (polymeric cement dispersant and cement compn. having high fluidity and fast setting property)
 RN 309918-42-1 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, phosphinobis(oxy-2,1-ethanediyl) ester, polymer with 2,5-furandione, α -(2-methyl-1-oxo-2-propenyl)- ω -methoxypoly(oxy-1,2-ethanediyl), 2-(phosphonooxy)ethyl 2-methyl-2-propenoate and sodium 2-methyl-2-propene-1-sulfonate (9CI) (CA INDEX NAME)

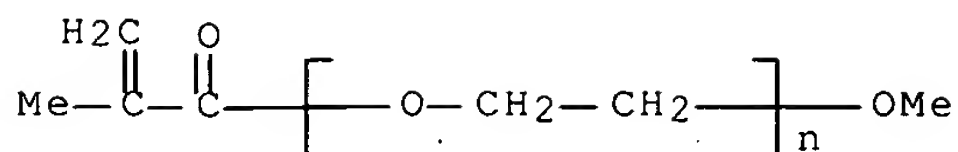
CM 1

CRN 32435-46-4
 CMF C12 H19 O8 P



CM 2

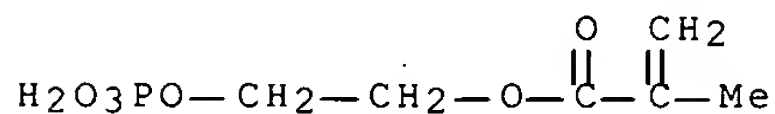
CRN 26915-72-0
 CMF (C2 H4 O)_n C5 H8 O2
 CCI PMS



CM 3

CRN 24599-21-1

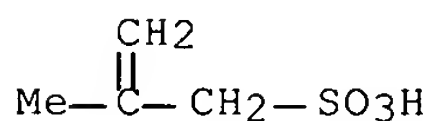
CMF C6 H11 O6 P



CM 4

CRN 1561-92-8

CMF C4 H8 O3 S . Na



● Na

CM 5

CRN 108-31-6

CMF C4 H2 O3



IC ICM C04B024-26

ICS C04B024-26; C08F290-06; C04B103-32

CC 58-3 (Cement, Concrete, and Related Building Materials)

Section cross-reference(s): 38

IT 309918-38-5 309918-39-6 309918-40-9 309918-41-0
309918-42-1

RL: TEM (Technical or engineered material use); USES (Uses)
(polymeric cement dispersant and cement compn. having high
fluidity and fast setting property)

L27 ANSWER 9 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2000:579893 HCAPLUS Full-text

DOCUMENT NUMBER: 133:164401

TITLE: Synthesis of MA-AMPS-AMPP copolymer and its

scale inhibition
 AUTHOR(S): Jing, Guohua; Tang, Shouyin; Dai, Youzhi
 CORPORATE SOURCE: Department of Environmental Engineering,
 Xiangtan University, Xiangtan, 411105, Peop.
 Rep. China
 SOURCE: Gongye Shuichuli (2000), 20(7), 13-15
 CODEN: GOSHFA; ISSN: 1005-829X
 PUBLISHER: Gongye Shuichuli Zazhishe
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese

AB The MA-AMPS-AMPP copolymer was prepd. by aq. polymn. of maleic anhydride (MA), 2-acrylamido-2-methyl-1-propanesulfonic acid, and 2-acrylamido-2-methylpropylphosphonic acid (AMPP) with FeSO₄-H₂O₂ as initiator. The effects of MA:AMPS:AMPP, amt. of initiator, reaction temp. and time on polymn. ratio and scale inhibition efficiency were discussed. The addn. of a small amt. of (NH₄)₂S₂O₈ and NaH₂PO₂ to the initiation system could greatly improved scale inhibition efficiency of the product. The copolymer showed good scale inhibition efficiency for CaCO₃ and Ca₃(PO₄)₂.

IT 287931-30-0P, 2-Acrylamido-2-methylpropylphosphonic acid-2-acrylamido-2-methylpropylsulfonic acid-maleic anhydride copolymer

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (prepn. and application for scale inhibition)

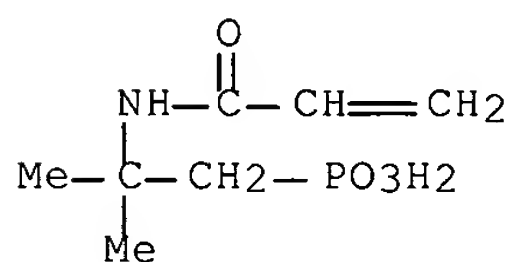
RN 287931-30-0 HCAPLUS

CN 1-Propanesulfonic acid, 2-methyl-2-[(1-oxo-2-propenyl)amino]-, polymer with 2,5-furandione and [2-methyl-2-[(1-oxo-2-propenyl)amino]propyl]phosphonic acid (9CI) (CA INDEX NAME)

CM 1

CRN 88701-03-5

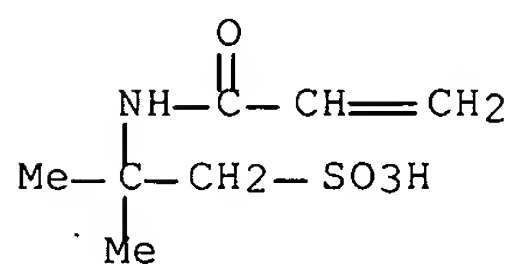
CMF C7 H14 N O4 P



CM 2

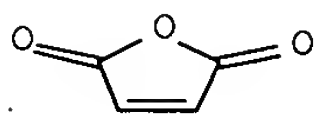
CRN 15214-89-8

CMF C7 H13 N O4 S



CM 3

CRN 108-31-6
CMF C4 H2 O3

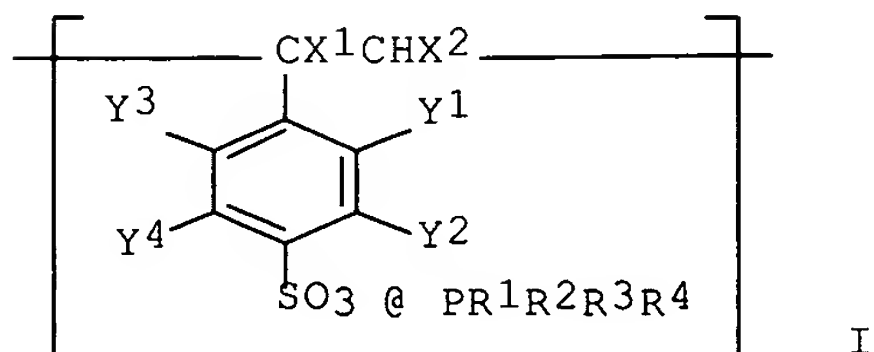


CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 38
IT 287931-30-0P, 2-Acrylamido-2-methylpropylphosphonic
acid-2-acrylamido-2-methylpropylsulfonic acid-maleic anhydride
copolymer
RL: SPN (Synthetic preparation); TEM (Technical or engineered
material use); PREP (Preparation); USES (Uses)
(prepn. and application for scale inhibition)

L27 ANSWER 10 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:344285 HCAPLUS Full-text
DOCUMENT NUMBER: 127:18526
TITLE: Permanently antistatic aromatic polycarbonate
compositions with good mechanical properties,
heat stability, and moldability
INVENTOR(S): Yoshida, Seiji
PATENT ASSIGNEE(S): Mitsubishi Engineering Plastic K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09087461	A2	19970331	JP 1995-247674	199509 26
PRIORITY APPLN. INFO.:				199509 26

GI



AB Title compns. contain 50-99% arom. polycarbonates and 1-50% vinyl polymers comprising 2-100 mol% repeating units of (substituted) styrenesulfonic acid phosphonium I (R1-R4 = C1-18 aliph. hydrocarbyl, arom. hydrocarbyl, aralkyl, alkylallyl; X1, X2 = H, Cl, Br; Y1-Y4 = H, Cl, Br, C1-6 hydrocarbyl) and 0-98 mol% repeating units of vinyl monomers other than I. Thus, a compn. comprising Iupilon S-3000 (polycarbonate) 94.7, tetrabutylphosphonium styrenesulfonate homopolymer 5, and ADK Stab PEP-36 (heat stabilizer) 0.3% was melt kneaded, pelletized, and injection molded to give test pieces showing surface resistivity $5.7 + 10^{13}$ initially and $8.5 + 10^{13} \Omega/\text{cm}^2$ after water-wash.

IT 189354-17-4P

RL: IMF (Industrial manufacture); MOA (Modifier or additive use);

PRP (Properties); PREP (Preparation); USES (Uses)

(permanently antistatic arom. polycarbonate compns. contg.

styrenesulfonate-based polymers with good mech. properties, heat stability, and moldability)

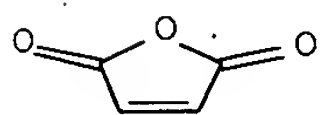
RN 189354-17-4 HCAPLUS

CN Phosphonium, tetrabutyl-, salt with ethenylbenzenesulfonic acid (1:1), polymer with 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 108-31-6

CMF C4 H2 O3



CM 2

CRN 124396-41-4

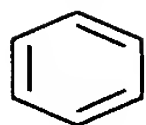
CMF C16 H36 P . C8 H7 O3 S

CM 3

CRN 50852-01-2

CMF C8 H7 O3 S

CCI IDS

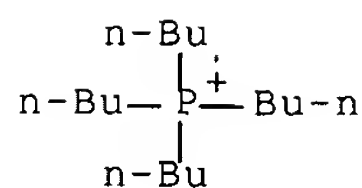


D1-CH=CH₂

D1-SO₃⁻

CM 4

CRN 15853-37-9



IC ICM C08L041-00
 ICS C08L069-00
 CC 37-6 (Plastics Manufacture and Processing)
 IT 124396-45-8P 169599-56-8P 189354-12-9P 189354-15-2P
 189354-16-3P **189354-17-4P**
 RL: IMF (Industrial manufacture); MOA (Modifier or additive use);
 PRP (Properties); PREP (Preparation); USES (Uses)
 (permanently antistatic arom. polycarbonate compns. contg.
 styrenesulfonate-based polymers with good mech. properties, heat
 stability, and moldability)

L27 ANSWER 11 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1997:222524 HCAPLUS Full-text

DOCUMENT NUMBER: 126:278102

TITLE: Phosphosulfurized antiwear, extreme-pressure,
 and VI [viscosity index] polymer additives:
 synthesis, characterization and lubricant
 applications

AUTHOR(S): Keromest, C.; Durand, J.-P.; Born, M.; Gateau,
 P.; Tessier, M.; Marechal, E.

CORPORATE SOURCE: Institut francais du petrole, Rueil-Malmaison,
 92852, Fr.

SOURCE: Revue de l'Institut Francais du Petrole (1997),
 52(1), 35-44

CODEN: RFPTBH; ISSN: 0020-2274

PUBLISHER: Technip

DOCUMENT TYPE: Journal

LANGUAGE: French

AB Poly(alkyl methacrylates) (PMA) and a maleated ethylene/propylene copolymer
 (OCP), usable both as lubricant VI improver and antiwear extreme-pressure (AW-
 EP) additives, were prep'd. by introducing AW-EP functional moieties on PMA and
 OCP backbones under the form of dialkyl dithiophosphates; mech. performances
 of these polymers were pre-assessed by means of a four-ball machine.

IT **189020-46-0P**

RL: SPN (Synthetic preparation); TEM (Technical or engineered
 material use); PREP (Preparation); USES (Uses)
 (prepn. of antiwear, extreme-pressure, and viscosity index
 polymer additives)

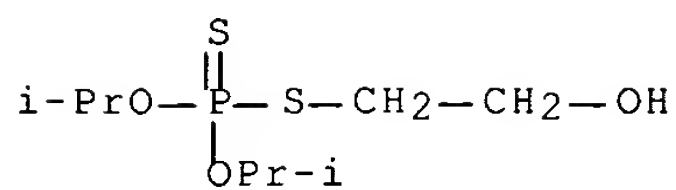
RN 189020-46-0 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, dodecyl ester, polymer with
 2,5-furandione and octadecyl 2-methyl-2-propenoate,
 2-[[bis(1-methylethoxy)phosphinothioyl]thio]ethyl ester (9CI) (CA
 INDEX NAME)

CM 1

CRN 116990-62-6

CMF C8 H19 O3 P S2



CM 2

CRN 109856-32-8

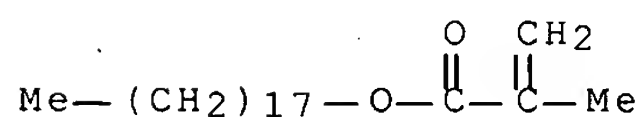
CMF (C22 H42 O2 . C16 H30 O2 . C4 H2 O3)x

CCI PMS

CM 3

CRN 32360-05-7

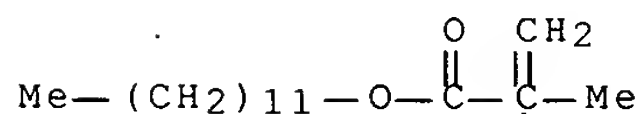
CMF C22 H42 O2



CM 4

CRN 142-90-5

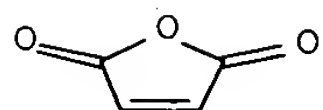
CMF C16 H30 O2



CM 5

CRN 108-31-6

CMF C4 H2 O3



CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 38, 51

IT 108-31-6DP; 2,5-Furandione, reaction products with ethylene-propylene copolymers, diisopropyldithiophosphorylethyl esters, preparation 9010-79-1DP, Ethylene-propylene copolymer, maleated, diisopropyldithiophosphorylethyl esters 188958-58-9P 189020-46-0P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(prepn. of antiwear, extreme-pressure, and viscosity index

polymer additives)

L27 ANSWER 12 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1991:537554 HCAPLUS Full-text

DOCUMENT NUMBER: 115:137554

TITLE: Adherent compositions showing excellent adhesion
on attaching resin moldings to the sidewalls of
automobile bodies

INVENTOR(S): Murachi, Tatsuya

PATENT ASSIGNEE(S): Toyoda Gosei Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 03045684	A2	19910227	JP 1989-181499	198907 13

PRIORITY APPLN. INFO.: JP 1989-181499

198907
13

AB Title compns. contain acrylic self-adhesives 100, isocyanuric acid (I) 0.012-130, and polyisocyanates 0.005-550 parts. Thus, 100 parts (as solid) a soln. (solid content 37%) of Bu acrylate-maleic anhydride copolymer (acid value 20-25) in a 1:1:1 cyclohexane-Et acetate-toluene mixed solvent was mixed with 0.013 part I and 0.0444 part isophorone diisocyanate (II) at normal temp. to prep. an adherent compn., which was applied to the one side of a polyethylene foam tape (expansion ratio 2), dried at 100° for 2 min, pasted on an acrylic paint-applied steel plate, and kept at room temp. for 20 days to show tensile shear strength 3.4 kg/cm² (rate of pulling 30 mm/min), vs. 0.21 kg/cm² for a compn. when 193.5 parts I and 33.3 parts II were similarly used.

IT 136261-84-2

RL: USES (Uses)

(adhesives, with good adhesion, for attaching resin moldings to
side walls of automobile bodies)

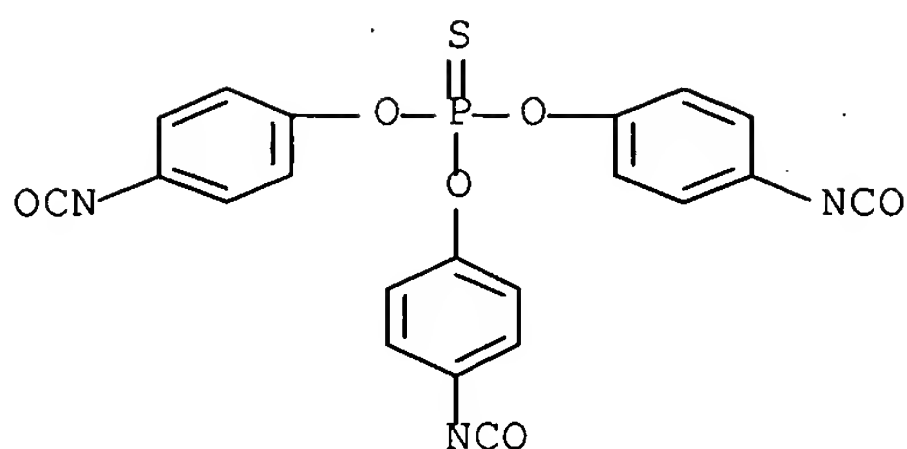
RN 136261-84-2 HCAPLUS

CN 2-Propenoic acid, butyl ester, polymer with 2,5-furandione,
1,3,5-triazine-2,4,6(1H,3H,5H)-trione and O,O,O-tris(4-
isocyanatophenyl) phosphorothioate (9CI) (CA INDEX NAME)

CM 1

CRN 4151-51-3

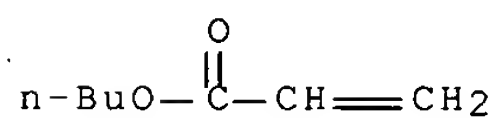
CMF C21 H12 N3 O6 P S



CM 2

CRN 141-32-2

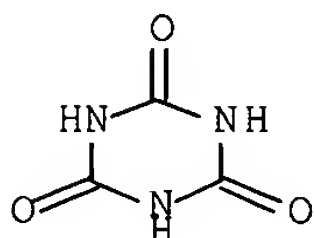
CMF C7 H12 O2



CM 3

CRN 108-80-5

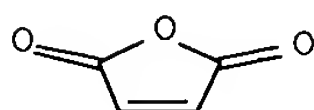
CMF C3 H3 N3 O3



CM 4

CRN 108-31-6

CMF C4 H2 O3



IC ICM C09J175-04

ICA C08G018-38; C08G018-62

CC 37-6 (Plastics Manufacture and Processing)

IT 136261-78-4 136261-79-5 136261-80-8 136261-81-9 136261-82-0

136261-83-1 136261-84-2 136261-85-3 136261-86-4

136261-87-5

RL: USES (Uses)

(adhesives, with good adhesion, for attaching resin moldings to side walls of automobile bodies)

L27 ANSWER 13 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1991:409613 HCAPLUS Full-text
 DOCUMENT NUMBER: 115:9613
 TITLE: Preparation and use of hydrophilic, swellable
 graft copolymers
 INVENTOR(S): Engelhardt, Friedrich; Riegel, Ulrich;
 Kuehlwein, Juergen
 PATENT ASSIGNEE(S): Cassella A.-G., Germany
 SOURCE: Ger. Offen., 9 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
DE 3910563	A1	19901004	DE 1989-3910563	198904 01
EP 391108	A2	19901010	EP 1990-104995	199003 16
EP 391108	A3	19920108		
EP 391108	B1	19950118		
R: BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, SE				
US 5041496	A	19910820	US 1990-495642	199003 19
FI 97474	B	19960913	FI 1990-1385	199003 20
FI 97474	C	19961227		
CA 2013441	AA	19901001	CA 1990-2013441	199003 30
CA 2013441	C	20001010		
JP 03163119	A2	19910715	JP 1990-81477	199003 30
PRIORITY APPLN. INFO.: DE 1989-3910563 A				198904 01

AB The title polymers, useful as absorbents for H₂O or aq. solns., contain 0.5-20% groups X[OC(R₁)CH₂O]_nCOZCO₂[C(R₁)CH₂O]_mzX [R₁ = H, Me; X = H, COZCO₂H; Z = C₁-6 alk(en)ylene, (sulfo)phenylene; m, n = 2-300; z = 1-100], 79-99% groups -CH(R₄)C(R₂)(R₃)- [R₂ = H, Me, Et; R₃ = CO₂H, SO₃H, or phosphonyl group or their esters; R₄ = H, Me, Et, CO₂H], and 0.1-2% crosslinker. A polyester (I) (OH no. 53, acid no. ≤1) was prepd. from polyethylene glycol 1.35, 1,2-propanediol 6.75, and di-Me terephthalate 4.05 mol. Emulsion polymn. of 100 g I with 1888 g acrylic acid (as the Na salt) and 12 g trimethylolpropane triacrylate gave a graft polymer showing good fluid retention when used in diapers.

IT 134337-90-9 134337-92-1
 RL: USES (Uses)
 (absorbents, for water, manuf. of)
 RN 134337-90-9 HCAPLUS

CN 2-Propenoic acid, polymer with bis[(1-oxo-2-propenyl)amino]acetic acid, ethenylphosphonic acid, 2,5-furandione, α -hydro- ω -hydroxypoly(oxy-1,2-ethanediyl) and 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid, sodium salt, graft (9CI)
(CA INDEX NAME)

CM 1

CRN 134337-89-6

CMF (C8 H10 N2 O4 . C7 H13 N O4 S . C4 H2 O3 . C3 H4 O2 . C2 H5 O3
P . (C2 H4 O)n H2 O)x

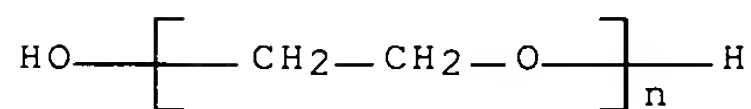
CCI PMS

CM 2

CRN 25322-68-3

CMF (C2 H4 O)n H2 O

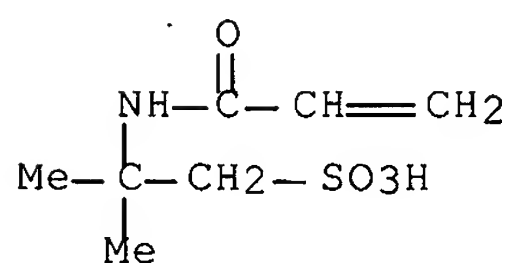
CCI PMS



CM 3

CRN 15214-89-8

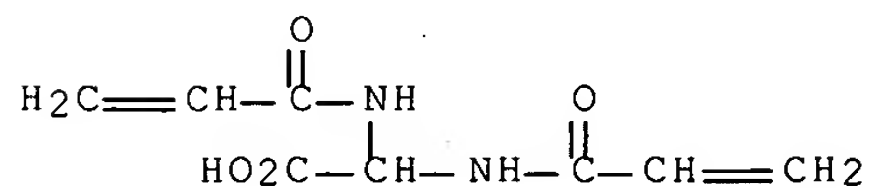
CMF C7 H13 N O4 S



CM 4

CRN 4387-85-3

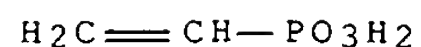
CMF C8 H10 N2 O4



CM 5

CRN 1746-03-8

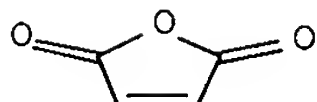
CMF C2 H5 O3 P



CM 6

CRN 108-31-6

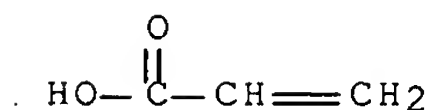
CMF C4 H2 O3



CM 7

CRN 79-10-7

CMF C3 H4 O2



RN 134337-92-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with bis[(1-oxo-2-propenyl)amino]acetic acid, ethyl hydrogen ethenylphosphonate, 2,5-furandione, α -hydro- ω -hydroxypoly(oxy-1,2-ethanediyl), α -hydro- ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)], 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid and 2-propenoic acid, sodium salt, graft (9CI) (CA INDEX NAME)

CM 1

CRN 134337-91-0

CMF (C8 H10 N2 O4 . C7 H13 N O4 S . C4 H9 O3 P . C4 H6 O2 . C4 H2 O3 . (C3 H6 O)_n H2 O . C3 H4 O2 . (C2 H4 O)_n H2 O)_x

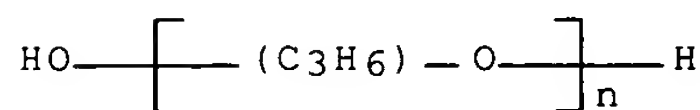
CCI PMS

CM 2

CRN 25322-69-4

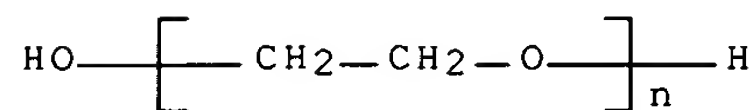
CMF (C3 H6 O)_n H2 O

CCI IDS, PMS



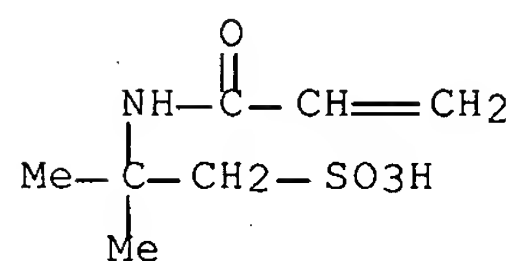
CM 3

CRN 25322-68-3
 CMF (C2 H4 O)_n H2 O
 CCI PMS



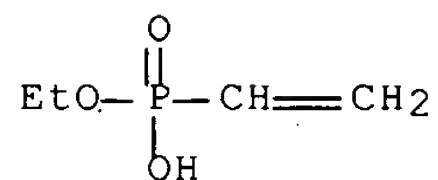
CM 4

CRN 15214-89-8
 CMF C7 H13 N O4 S



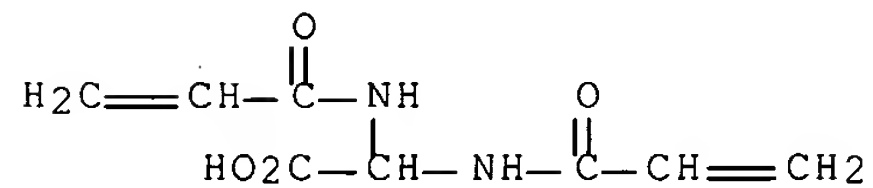
CM 5

CRN 4546-13-8
 CMF C4 H9 O3 P



CM 6

CRN 4387-85-3
 CMF C8 H10 N2 O4



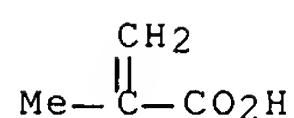
CM 7

CRN 108-31-6
 CMF C4 H2 O3



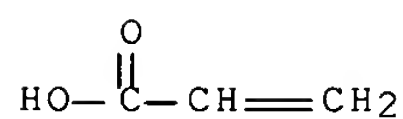
CM 8

CRN 79-41-4
CMF C4 H6 O2



CM 9

CRN 79-10-7
CMF C3 H4 O2



IC ICM C08F283-06
ICS C02F001-28; A61F013-15; A61F013-20; A61L015-22
ICA C08F283-02
ICI C08F283-00, C08F220-06, C08F220-58, C08F222-02, C08F228-02,
C08F230-02
CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 63
IT 134337-65-8 134337-68-1 134337-70-5 134337-72-7 134337-74-9
134337-76-1 134337-78-3 134337-80-7 134337-82-9 134337-84-1
134337-86-3 134337-88-5 134337-90-9 134337-92-1
134337-94-3 134337-96-5 134337-98-7 134338-00-4 134338-02-6
134338-04-8 134417-73-5 134451-16-4
RL: USES (Uses)
(absorbents, for water, manuf. of)

L27 ANSWER 14 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1988:95492 HCAPLUS Full-text
DOCUMENT NUMBER: 108:95492
TITLE: Self-crosslinkable thermosetting resins for
molding or casting materials and adhesives
INVENTOR(S): Tagoshi, Hirotaka; Endo, Takeshi; Yoshida, Haruo
PATENT ASSIGNEE(S): Showa Denko K. K., Japan
SOURCE: Jpn. Kokai Tokyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62192412	A2	19870824	JP 1986-33794	198602 20

PRIORITY APPLN. INFO.:

JP 1986-33794

198602
20

GI For diagram(s), see printed CA Issue.

AB Title resins are prepd. from spiroorthoesters I 1-99.9, electron-withdrawing group-bearing vinyl monomers 0-98.9, and sulfonium compds. II (R = H, Me; X = SbF₆, AsF₆, PF₆, BF₄; m = 3-5) 0.1-20 mol%. Thus, spiroorthoester I (m = 5) 0.530, acrylonitrile 0.167, and a mixt. of m/p-sulfonium salt II (X = SbF₆) 0.305 g were polymd. using AIBN at 60° for 24 h to give a polymer with d. 1.343 which was stable at room temp. for .apprx.6 mo. Dissolving 0.5 g the polymer into 1 mL MeCN, and heating at 120° for 10 h gave crosslinked product with d. 1.331.

IT 112783-68-3

RL: USES (Uses)

(self-crosslinkable, shrinkproof thermoset with good storage stability)

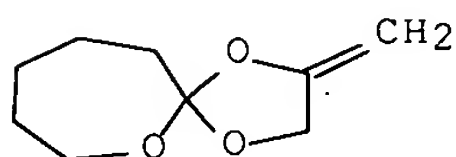
RN 112783-68-3 HCAPLUS

CN Thiophenium, 1-[(4-ethenylphenyl)methyl]tetrahydro-, hexafluorophosphate(1-), polymer with 2,5-furandione and 2-methylene-1,4,6-trioxaspiro[4.6]undecane (9CI) (CA INDEX NAME)

CM 1

CRN 78067-30-8

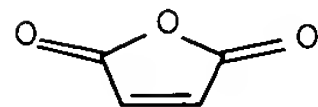
CMF C9 H14 O3



CM 2

CRN 108-31-6

CMF C4 H2 O3



CM 3

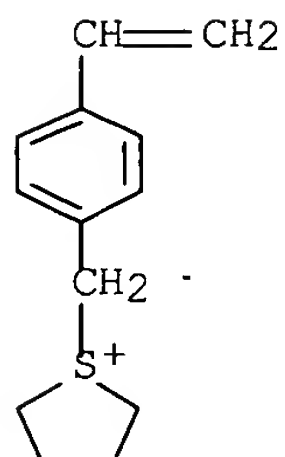
CRN 112760-73-3

CMF C13 H17 S . F6 P

CM 4

CRN 106311-34-6

CMF C13 H17 S

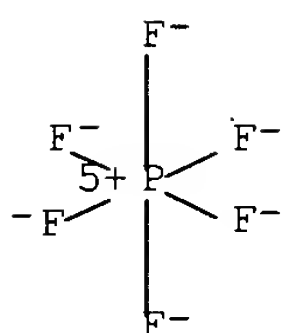


CM 5

CRN 16919-18-9

CMF F6 P

CCI CCS



IC ICM C08F216-38

ICS C08F212-14

CC 37-3 (Plastics Manufacture and Processing)

Section cross-reference(s): 38

IT 112760-88-0 112760-89-1 112760-90-4 112760-91-5 112760-92-6

112760-93-7 112760-94-8 112760-95-9 112760-96-0 112760-97-1

112760-98-2 112760-99-3 112761-00-9 112761-01-0

112783-68-3

RL: USES (Uses)

(self-crosslinkable, shrinkproof thermoset with good storage stability)

L27 ANSWER 15 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1988:95491 HCAPLUS Full-text

DOCUMENT NUMBER: 108:95491

TITLE: Self-crosslinkable thermosetting resins for molding or casting materials and adhesives

INVENTOR(S): Tagoshi, Hirotaka; Endo, Takeshi; Yoshida, Haruo

PATENT ASSIGNEE(S): Showa Denko K. K., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

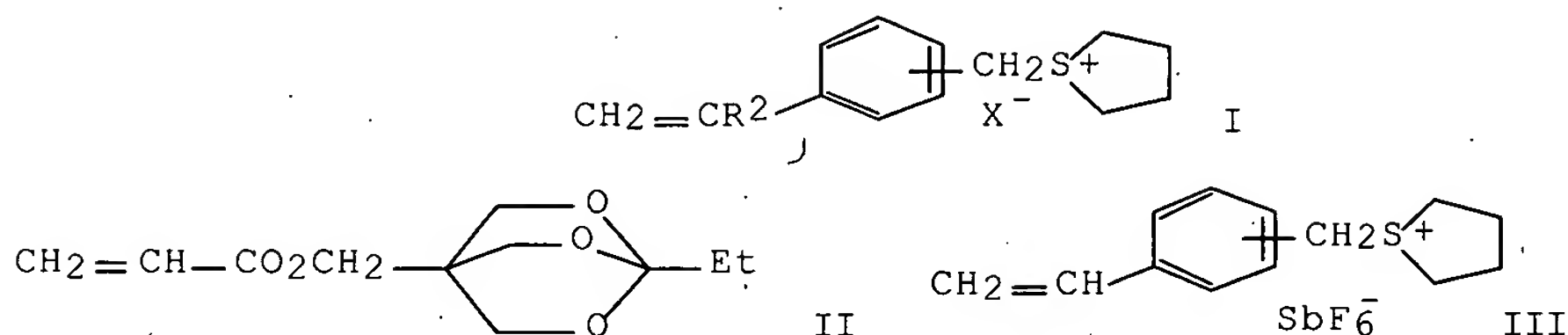
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 62192415	A2	19870824	JP 1986-33792	198602 20
PRIORITY APPLN. INFO.:			JP 1986-33792	198602 20

GI



AB Title resins are prepd. from 0-98.9 mol % ethylenic unsatd. monomers, 1-99.9 mol % CH₂:CRCO₂R₁ (R = H, Me; R₁ = terminal bicycloorthoeester-contg. alkylene), and 0.1-20 mol % I (R₂ = H, Me; X = SbF₆, AsF₆, BF₄). Bicycloorthoeester II 0.535, Me methacrylate 0.235, and mixt. of m-/p-sulfonium salt III 0.230 g were polymd. using AIBN at 70° for 24 h to give a polymer with d. 1.317 and intrinsic viscosity 0.26 at 84% yield. Dissolving 0.5 g the polymer in 1 mL MeCN, and heating at 120° for 10 h gave crosslinked product with d. 1.301. The polymer could be heat set even after 6 mo at room temp.

IT 112760-74-4P

RL: PREP (Preparation)

(self-crosslinkable, shrinkproof, storage-stable, manuf. of)

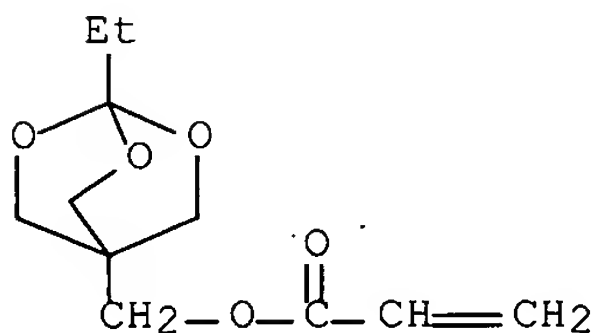
RN 112760-74-4 HCAPLUS

CN Thiophenium, 1-[(4-ethenylphenyl)methyl]tetrahydro-, hexafluorophosphate(1-), polymer with (1-ethyl-2,6,7-trioxabicyclo[2.2.2]oct-4-yl)methyl 2-propenoate and 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

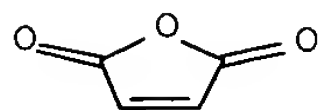
CRN 82837-04-5

CMF C11 H16 O5



CM 2

CRN 108-31-6
CMF C4 H2 O3

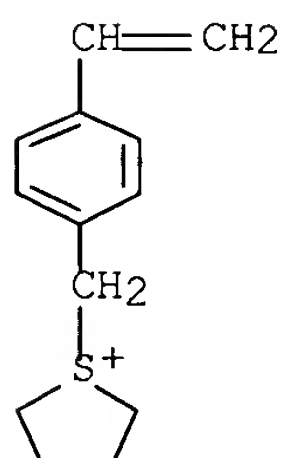


CM 3

CRN 112760-73-3
CMF C13 H17 S . F6 P

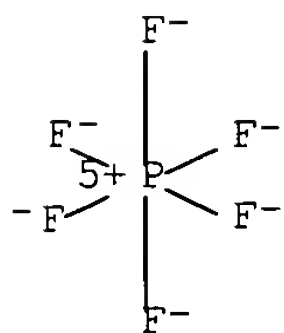
CM 4

CRN 106311-34-6
CMF C13 H17 S



CM 5

CRN 16919-18-9
CMF F6 P
CCI CCS



IC ICM C08F220-28
ICS C08F220-28

ICA C08F212-14

ICI C08F220-28, C08F212-14

CC 37-3 (Plastics Manufacture and Processing)

IT 112760-66-4P 112760-69-7P 112760-70-0P 112760-71-1P
112760-72-2P 112760-74-4P 112760-76-6P 112760-77-7P

112760-78-8P 112760-80-2P 112760-81-3P 112760-82-4P
 112760-83-5P 112760-84-6P 112760-85-7P 112760-86-8P
 112760-87-9P 112783-67-2P

RL: PREP (Preparation)

(self-crosslinkable, shrinkproof, storage-stable, manuf. of)

L27 ANSWER 16 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1984:424128 HCAPLUS Full-text

DOCUMENT NUMBER: 101:24128

TITLE: Continuous copolymerization of monoethylenic unsaturated mono- and dicarboxylic acids

INVENTOR(S): Denzinger, Walter; Hartmann, Heinrich; Trieselt, Wolfgang; Hettche, Albert; Schneider, Rolf; Raubenheimer, Hans Juergen

PATENT ASSIGNEE(S): BASF A.-G. , Fed. Rep. Ger.

SOURCE: Ger. Offen., 15 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
DE 3233778	A1	19840315	DE 1982-3233778	198209 11
EP 106111	A1	19840425	EP 1983-108754	198309 06
EP 106111 R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE	B1	19871209		
AT 31318	E	19871215	AT 1983-108754	198309 06
ES 525511	A1	19840601	ES 1983-525511	198309 08
JP 59066407	A2	19840414	JP 1983-165294	198309 09
JP 02057804	B4	19901206		
CA 1241490	A1	19880830	CA 1983-436435	198309 09
US 4725655	A	19880216	US 1986-919583	198610 16
PRIORITY APPLN. INFO.:			DE 1982-3233778	A 198209 11
			EP 1983-108754	A 198309 06
			US 1983-530476	A1 198309 08

US 1984-674370 A1 198411
26

US 1985-730262 A1 198505
06

US 1985-811326 A1 198512
19

OTHER SOURCE(S): MARPAT 101:24128

AB In the title process, 10-60% unsatd. C4-6 dicarboxylic acid, anhydride, or salt is polymd. continuously with 40-90% unsatd. C3-10 monocarboxylic acid or salt (total acids 20-80% neutralized) and 0-20% comonomer in aq. medium at 60-150° in a reactor cascade. Thus, adding a soln. of maleic anhydride 72.3, acrylic acid 150, and H2O 153.4 parts, a soln. of 28.5 parts 30% H2O2 and 56 parts H2O, and a soln. of 85 parts NaOH in 225 parts H2O to the 1st of 3 reactors (all at 100°) and 100 parts 50% aq. acrylic acid to the 2nd gave a 37% soln. of copolymer [52255-49-9] with K-value (2% aq. soln., fully neutralized) 46 and unreacted maleic acid content 0.76%.

IT 90718-01-7P

RL: IMF (Industrial manufacture); PREP (Preparation)
(manuf. of, by continuous polymn.)

RN 90718-01-7 HCAPLUS

CN 2-Propenoic acid, polymer with ethenesulfonic acid, ethenyl acetate, ethenylphosphonic acid, 2,5-furandione and 2-hydroxyethyl 2-propenoate, sodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 90718-00-6

CMF (C5 H8 O3 . C4 H6 O2 . C4 H2 O3 . C3 H4 O2 . C2 H5 O3 P . C2 H4 O3 S)x

CCI PMS

CM 2

CRN 1746-03-8

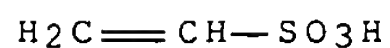
CMF C2 H5 O3 P



CM 3

CRN 1184-84-5

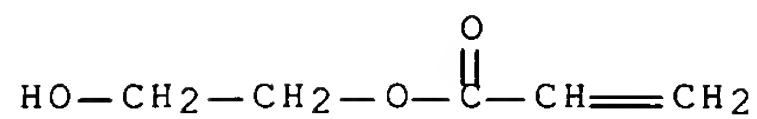
CMF C2 H4 O3 S



CM 4

CRN 818-61-1

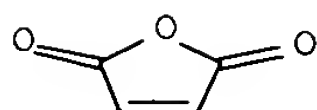
CMF C5 H8 O3



CM 5

CRN 108-31-6

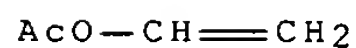
CMF C4 H2 O3



CM 6

CRN 108-05-4

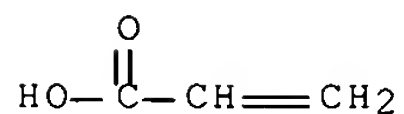
CMF C4 H6 O2



CM 7

CRN 79-10-7

CMF C3 H4 O2



IC C08F220-04; C08F222-02; C08F002-00; C08F008-44

CC 35-4 (Chemistry of Synthetic High Polymers)

IT 26099-88-7P 52255-49-9P 60472-42-6P 90717-97-8P 90717-99-0P

90718-01-7P 90718-03-9P

RL: IMF (Industrial manufacture); PREP (Preparation)
(manuf. of, by continuous polymn.)

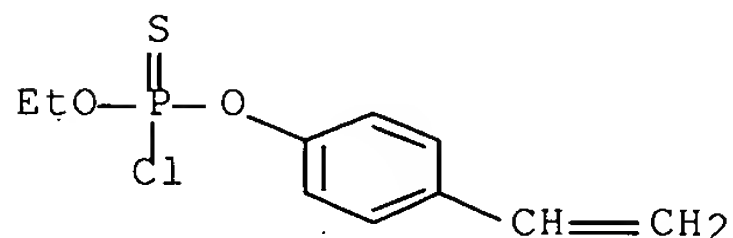
L27 ANSWER 17 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1980:568642 HCAPLUS Full-text

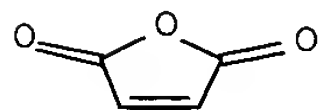
DOCUMENT NUMBER: 93:168642

TITLE: Preparations and chelation properties of
ethyl-(p-vinylphenyl)phosphoric acid or
ethyl-(p-vinylphenyl)thiophosphoric acid polymer

and copolymer
 AUTHOR(S): Furukawa, Junji; Kobayashi, Eiichi; Wakui, Tadahiho
 CORPORATE SOURCE: Dep. Ind. Chem., Sci. Univ. Tokyo, Noda, 278, Japan
 SOURCE: Polymer Journal (Tokyo, Japan) (1980), 12(5), 293-303
 CODEN: POLJB8; ISSN: 0032-3896
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB p-Hydroxystyrene [2628-17-3] is used with EtOP(O)Cl₂ [1498-51-7] or EtOP(S)Cl₂ [1498-64-2] to prep. p-(H₂C:CH)C₆H₄OP(O)(OEt)Cl (I) [73970-22-6] and p-(H₂C:CH)C₆H₄OP(S)(OEt)Cl (II) [73970-24-8]. I and II are homopolymd. and copolymd. with styrene, Me methacrylate (reactivity ratios detd.), or maleic anhydride (III) to prep. glassy transparent polymers. Alternating copolymers are obtained from I and III or II and III. The polymers are hydrolyzed and evaluated as chelating agents for Hg²⁺, UO₂²⁺, Cu²⁺, Co²⁺, Fe³⁺, and Ca²⁺ ions. The chelating capacities of the polymers are low in dil. solns. of the ions.
 IT 73970-25-9DP, hydrolyzed
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (prepn. and chelation of heavy metals by)
 RN 73970-25-9 HCAPLUS
 CN Phosphorochloridothioic acid, O-(4-ethenylphenyl) O-ethyl ester, polymer with 2,5-furandione (9CI) (CA INDEX NAME)
 CM 1
 CRN 73970-24-8
 CMF C10 H12 Cl O2 P S



CM 2
 CRN 108-31-6
 CMF C4 H2 O3

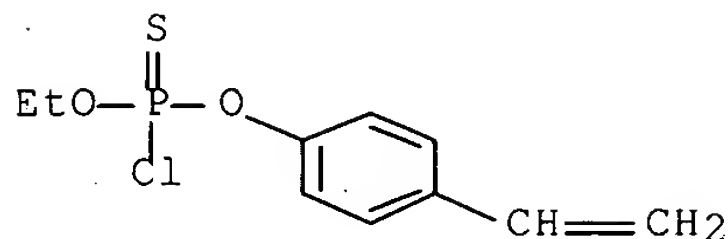


IT 73970-25-9P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)
 RN 73970-25-9 HCAPLUS
 CN Phosphorochloridothioic acid, O-(4-ethenylphenyl) O-ethyl ester, polymer with 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 73970-24-8

CMF C10 H12 Cl O2 P S



CM 2

CRN 108-31-6

CMF C4 H2 O3



CC 35-1 (Synthetic High Polymers)

Section cross-reference(s): 25

IT 73970-23-7DP, hydrolyzed **73970-25-9DP**, hydrolyzed
74721-69-0DP, hydrolyzed 75280-88-5DP, hydrolyzed 75280-89-6DP,
hydrolyzed 75280-90-9DP, hydrolyzed 75280-91-0DP, hydrolyzed
75280-92-1DP, hydrolyzed

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)

(prepn. and chelation of heavy metals by)

IT 73970-23-7P **73970-25-9P** 74721-69-0P 75280-88-5P
75280-89-6P 75280-90-9P 75280-91-0P 75280-92-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L27 ANSWER 18 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1980:495967 HCAPLUS Full-text

DOCUMENT NUMBER: 93:95967

TITLE: Phosphorus-containing polystyrene derivatives as
flame resistance

AUTHOR(S): Furukawa, Junji; Kobayashi, Eiichi; Wakui,
Tadahiro

CORPORATE SOURCE: Dep. Ind. Chem., Sci. Univ. Tokyo, Noda, 278,
Japan

SOURCE: Polymer Journal (Tokyo, Japan) (1980), 12(5),
277-85

CODEN: POLJB8; ISSN: 0032-3896

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Di-Et p-vinylphenyl phosphate (I) [72909-42-3] and di-Et p-vinylphenyl
thiophosphate (II) [72909-41-2] can be prepd. from Na p-vinylphenoxide
[72909-40-1]. Their copolymers with vinyl monomers are glassy solids that are
flame resistant. The copolymers with maleic anhydride are alternating. The

flame resistance was better for I-contg. polymers than for II-contg. polymers.
The flame resistance of the copolymers was not always higher than that of
mixts. of the homopolymers.

IT 74508-37-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

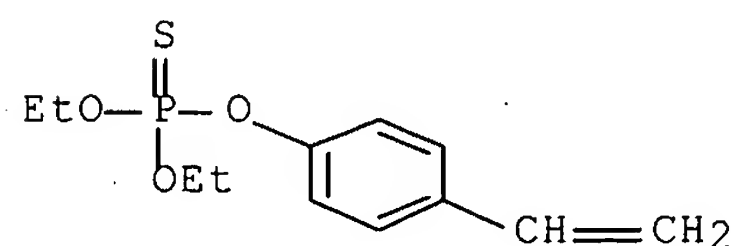
RN 74508-37-5 HCAPLUS

CN Phosphorothioic acid, O-(4-ethenylphenyl) O,O-diethyl ester, polymer
with 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 72909-41-2

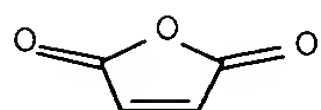
CMF C12 H17 O3 P S



CM 2

CRN 108-31-6

CMF C4 H2 O3



CC 36-3 (Plastics Manufacture and Processing)

IT 58555-67-2P 74508-34-2P 74508-37-5P 74508-41-1P
74508-43-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L27 ANSWER 19 OF 19 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1980:408715 HCAPLUS Full-text

DOCUMENT NUMBER: 93:8715

TITLE: Collection of heavy metals with water soluble
chelate polymers

AUTHOR(S): Kobayashi, Eiichi; Furukawa, Junji

CORPORATE SOURCE: Tokyo Sci. Univ., Tokyo, Japan

SOURCE: Kankyo Kagaku Tokubetsu Kenkyu Shinpojumu
Yoshishu (1979), Volume 1, 10-13. Kyoto Daigaku
Kogakubu: Kyoto, Japan.
CODEN: 43AZAE

DOCUMENT TYPE: Conference

LANGUAGE: Japanese

AB Hydrolyzed Et 4-vinylphenyl phosphorothiochloridate-maleic anhydride
copolymer selectively chelated Hg2+ at pH 3. Alternating copolymers of maleic
anhydride with furan, thiophene, N-vinylsuccinimide, Et 4-vinylphenyl

phosphorochloridate, and Et 4-vinylphenyl phosphorothiochloridate were prepd. and hydrolyzed to give water-sol. chelating polymers.

IT 73970-25-9D, hydrolyzed

RL: USES (Uses)

(alternating, heavy metal chelation by)

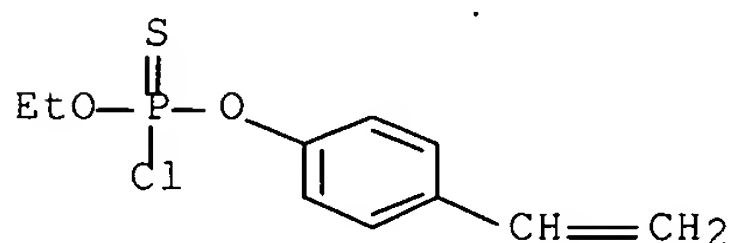
RN 73970-25-9 HCAPLUS

CN Phosphorochloridothioic acid, O-(4-ethenylphenyl) O-ethyl ester, polymer with 2,5-furandione (9CI) (CA INDEX NAME)

CM 1

CRN 73970-24-8

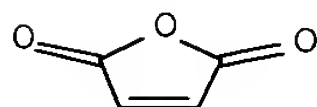
CMF C10 H12 Cl O2 P S



CM 2

CRN 108-31-6

CMF C4 H2 O3



CC 35-6 (Synthetic High Polymers)

Section cross-reference(s): 60

IT 27026-41-1D, hydrolyzed 27275-33-8D, hydrolyzed 33031-81-1D,
hydrolyzed 73970-23-7D, hydrolyzed 73970-25-9D,
hydrolyzed 73970-26-0D, hydrolyzed

RL: USES (Uses)

(alternating, heavy metal chelation by)

=> d l31 ibib abs hitstr hitind 1-5

L31 ANSWER 1 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:216421 HCAPLUS Full-text

DOCUMENT NUMBER: 142:262346

TITLE: Production of electric insulators by curing epoxy resins containing reactive modifiers

INVENTOR(S): Amirova, L. M.; Magsumova, A. F.; Amirov, R. R.;
Ganiev, M. M.; Shayakhmetova, A. R.

PATENT ASSIGNEE(S): Kazanskii Gosudarstvennyi Tekhnicheskii
Universitet im. A. N. Tupoleva KGTU im. A. N.
Tupoleva, Russia

SOURCE: Russ., No pp. given

CODEN: RUXXE7

DOCUMENT TYPE: Patent

LANGUAGE: Russian
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RU 2247752	C1	20050310	RU 2003-129751	20031006
PRIORITY APPLN. INFO.:			RU 2003-129751	20031006

AB An elec. insulating compd. is produced by mixing bisphenol A epoxy resin having a mol. wt. of 1,000-6,000 (45-55) and a phosphorus-contg. reactive modifier (100 parts) at 50-60°, followed by adding a stoichiometric amt. of an arom. diamine, the phosphorus-contg. modifier being triglycidyl phosphate, diglycidyl Me phosphate, or diglycidyl methylphosphonate, and the arom. diamine being selected from 4,4'-diaminodiphenylmethane, 4,4'-diaminodiphenylsulfone, and 4,4'-diaminodiphenyl oxide. The compn. has reduced viscosity, improved dielec. properties, and can be used for impregnation of high-voltage and low-voltage components of elec. devices, transformers, and choke coils.

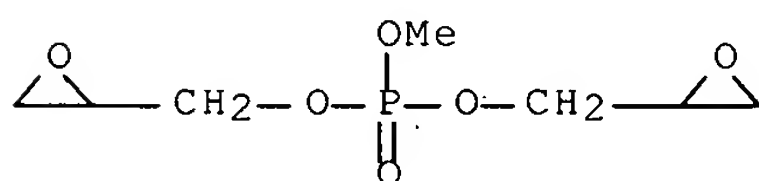
IT 845858-48-2P 845858-50-6P 845858-55-1P
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (prodn. of elec. insulators by curing epoxy resins contg. reactive modifiers)

RN 845858-48-2 HCAPLUS

CN Phosphoric acid, methyl bis(oxiranylmethyl) ester, polymer with (chloromethyl)oxirane, 4,4'-(1-methylethylidene)bis[phenol] and 4,4'-sulfonylbis[benzenamine] (9CI) (CA INDEX NAME)

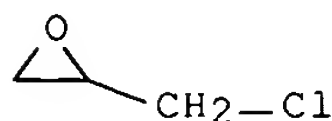
CM 1

CRN 17167-20-3
 CMF C7 H13 O6 P



CM 2

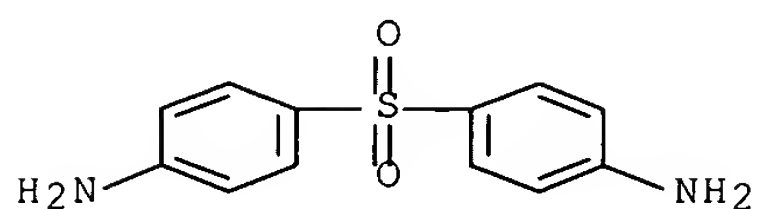
CRN 106-89-8
 CMF C3 H5 Cl O



CM 3

CRN 80-08-0

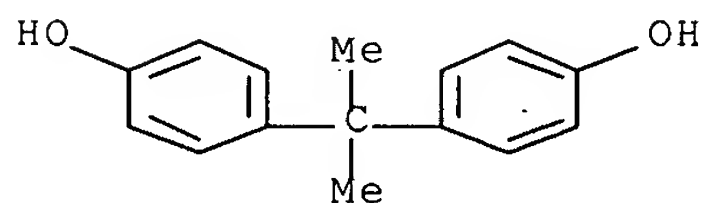
CMF C12 H12 N2 O2 S



CM 4

CRN 80-05-7

CMF C15 H16 O2



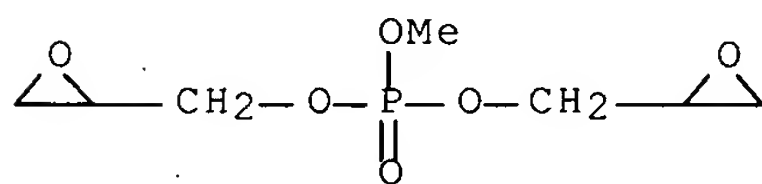
RN 845858-50-6 HCAPLUS

CN Phosphoric acid, methyl bis(oxiranylmethyl) ester, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane] and 4,4'-sulfonylbis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 17167-20-3

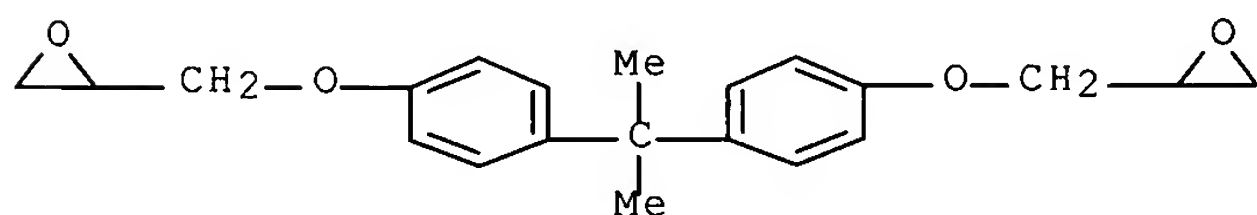
CMF C7 H13 O6 P



CM 2

CRN 1675-54-3

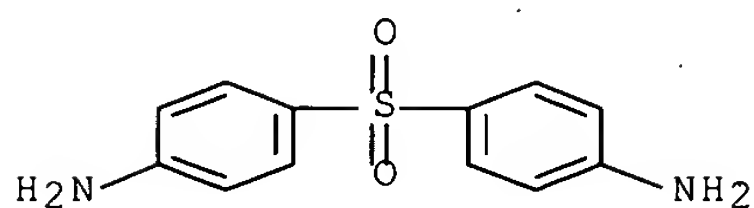
CMF C21 H24 O4



CM 3

CRN 80-08-0

CMF C12 H12 N2 O2 S



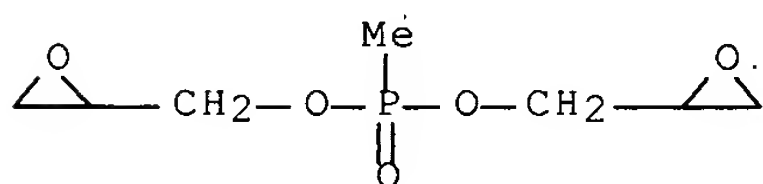
RN 845858-55-1 HCAPLUS

CN Phosphonic acid, methyl-, bis(oxiranylmethyl) ester, polymer with E 45 (epoxy resin) and 4,4'-sulfonylbis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 77375-34-9

CMF C7 H13 O5 P



CM 2

CRN 64236-77-7

CMF Unspecified

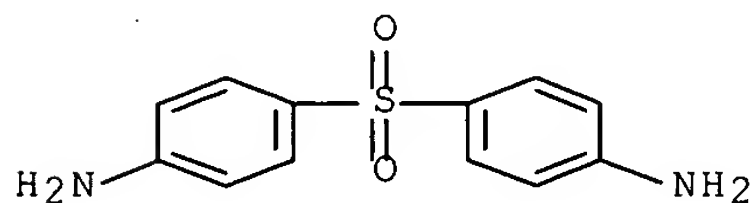
CCI MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 80-08-0

CMF C12 H12 N2 O2 S



IC ICM C08G059-14

ICS H01B003-40; C09D163-02; C09J163-02; C09K021-12

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 76

IT 101-77-9DP, 4,4'-Diaminodiphenylmethane, reaction products with epoxy alkyd resins and triglycidyl phosphate or diglycidyl methylphosphonate 18795-33-0DP, Triglycidyl phosphate, reaction products with epoxy alkyd resins and arom. amines 77375-34-9DP, Diglycidyl methylphosphonate, reaction products with epoxy alkyd resins and arom. diamines 845858-47-1P **845858-48-2P** 845858-49-3P **845858-50-6P** 845858-51-7P 845858-52-8P 845858-53-9P 845858-54-0P **845858-55-1P** 845858-56-2P
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (prodn. of elec. insulators by curing epoxy resins contg. reactive modifiers)

L31 ANSWER 2 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1996:694377 HCAPLUS Full-text

DOCUMENT NUMBER: 125:330533

TITLE: Non-flammable polyamides prepared from polyamides and phosphorus-containing epoxides

INVENTOR(S): Von Gentzkow, Wolfgang

PATENT ASSIGNEE(S): Siemens A.-G., Germany

SOURCE: PCT Int. Appl., 16 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

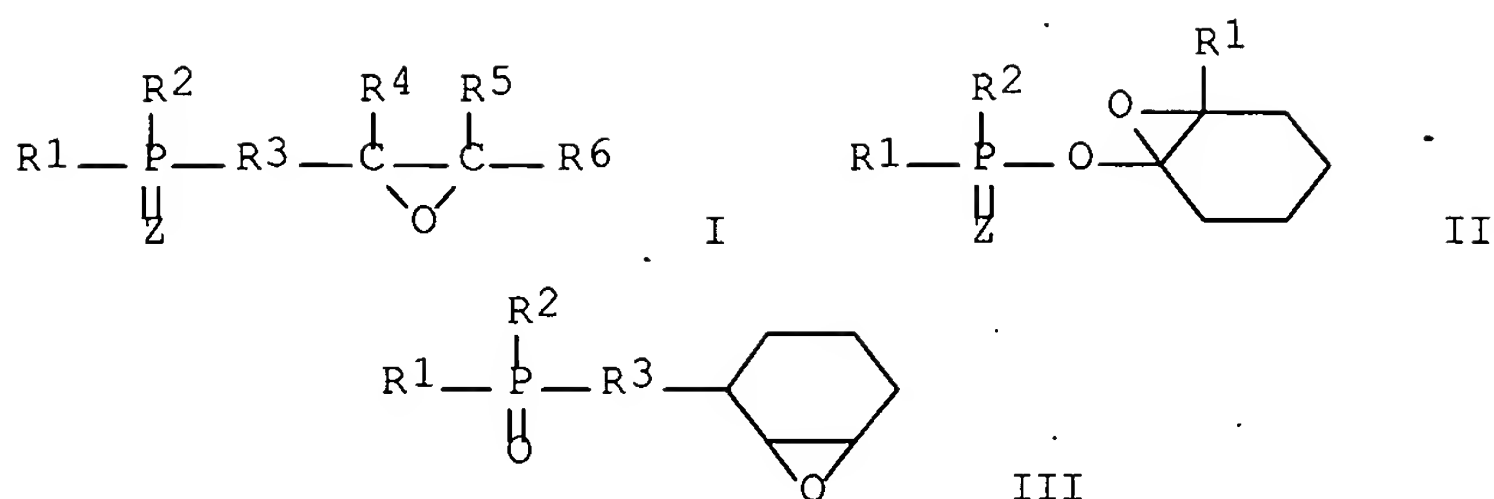
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 9630441	A1	19961003	WO 1996-DE465	199603 15
W: CN, JP, KR, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 817812	A1	19980114	EP 1996-905736	199603 15
R: CH, DE, FR, GB, IT, LI, NL				
CN 1179168	A	19980415	CN 1996-192796	199603 15
JP 11502554	T2	19990302	JP 1996-528760	199603 15
US 5942584	A	19990824	US 1997-930521	199709 29
PRIORITY APPLN. INFO.:			DE 1995-19512175	A 199503 31
			WO 1996-DE465	W 199603 15

GI



AB Non-flammable polyamide compns. are prepd. from a polyamide, a copolyamide, or a polyamide blend by high-temp. reaction with a mono-epoxy phosphorus compd. of general structures I, II, or III [Z = O or S; R1,R2 = alkyl, O- or S-C1-4-alkyl, OPh, SPh, naphthyl, O-naphthyl, benzyl, or O-benzyl; R3 is a single bond, O, C1-4-alkylene, phenylene, or O- or S-C1-4-alkylene or O-phenylene (O or S bound to P); R4,R5,R6 = H, C1-4-alkyl, C1-4-hydroxyalkyl Ph, or benzyl (optionally, R5 or R6 can be -R3-P(:O)R1R2)], in which the content of the P compd. is present at the 5-35 wt.% level. Addnl. additives (e.g., fillers, glass fibers, and halogen-free flame retardants) can be added to the polymer-epoxy material. Suitable halogen-free flame retardants include melamine cyanurate, melamine phosphate, or Mg(OH)2. The compns. are esp. suitable for use in insulating, building, and housing materials.

IT 183314-89-8P

RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(non-flammable and flame-resistant polyamides prepd. from polyamides and phosphorus-contg. epoxides)

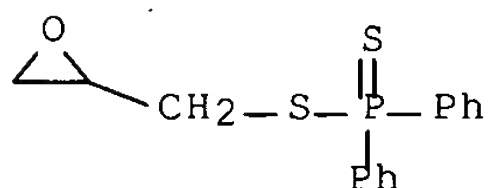
RN 183314-89-8 HCAPLUS

CN Phosphinodithioic acid, diphenyl-, oxiranylmethyl ester, polymer with hexahydro-2H-azepin-2-one (9CI) (CA INDEX NAME)

CM 1

CRN 183314-88-7

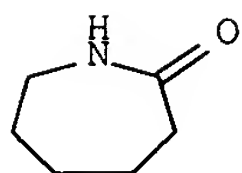
CMF C15 H15 O P S2



CM 2

CRN 105-60-2

CMF C6 H11 N O



IC. ICM C08K005-51
 ICS C08K005-5398; C08L077-00; C08K005-521; C08K005-529;
 C08K005-5397; C08G069-48
 CC 37-6 (Plastics Manufacture and Processing)
 IT Fire-resistant materials
 (dielec., non-flammable and flame-resistant polyamides
 prepd. from polyamides and phosphorus-contg. epoxides)
 IT Building materials
 Electric insulators and **Dielectrics**
 Thermal insulators
 (fire-resistant, non-flammable and flame-resistant polyamides
 prepd. from polyamides and phosphorus-contg. epoxides)
 IT 183314-80-9P 183314-81-0P 183314-82-1P 183314-84-3P
 183314-85-4P 183314-86-5P 183314-87-6P **183314-89-8P**
 RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP
 (Properties); SPN (Synthetic preparation); PREP (Preparation); USES
 (Uses)
 (non-flammable and flame-resistant polyamides prepd. from
 polyamides and phosphorus-contg. epoxides)

L31 ANSWER 3 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1994:484697 HCAPLUS Full-text
 DOCUMENT NUMBER: 121:84697
 TITLE: Synthesis and properties of inorganic-organic
 resins with di-aminotetraorganocyclotriphosphaze
 nes and epoxy resin
 AUTHOR(S): Kajiwara, M.
 CORPORATE SOURCE: Dep. Appl. Chem., Nagoya Univ., Nagoya, 464-01,
 Japan
 SOURCE: Journal of Materials Science Letters (1994),
 13(11), 842-5
 CODEN: JMSLD5; ISSN: 0261-8028
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The title cured epoxy resins were obtained by curing the bisphenol A-based
 epoxy resin Epikote 828 (I) with diaminotetraphenoxycyclotriphosphazene or
 with other diaminotetraorganocyclotriphosphazenes, and their chem. resistance,
 mech. properties, **dielec.** properties, and flammability was compared to I cured
 with ethylenediamine, hexamethylenediamine, and o-, m-, and p-
 phenylenediamine.

IT **108455-11-4P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and physicomech. and **dielec.** properties and
 chem. resistance and flammability of)

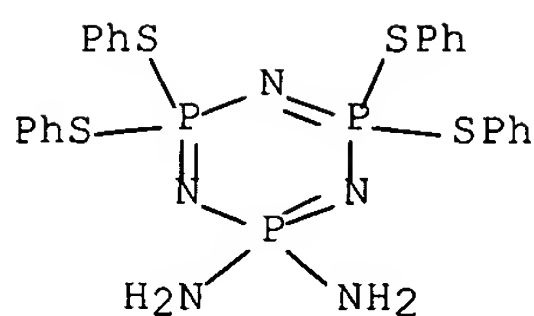
RN 108455-11-4 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with
 (chloromethyl)oxirane and 2,2-diamino-2,2,4,4,6,6-hexahydro-4,4,6,6-
 tetrakis(phenylthio)-1,3,5,2,4,6-triazatriphosphorine (9CI) (CA
 INDEX NAME)

CM 1

CRN 77865-61-3

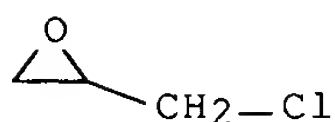
CMF C24 H24 N5 P3 S4



CM 2

CRN 106-89-8

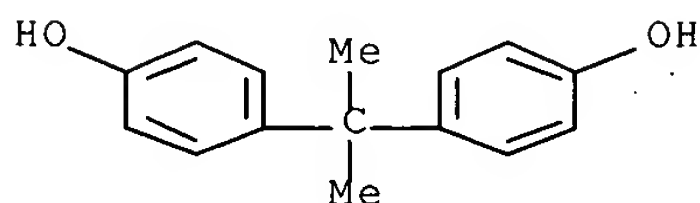
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



CC 37-5 (Plastics Manufacture and Processing)

ST epoxy resin diaminotetraphenoxycyclotriphosphazene crosslinking property; flammability epoxy resin diaminotetraphenoxycyclotriphosphazene crosslinking; **dielec** property epoxy resin diaminotetraphenoxycyclotriphosphazene crosslinking

IT Epoxy resins, properties

RL: PRP (Properties)

(crosslinked with diaminotetraorganocyclotriphosphazenes, with good of chem. and fire resistance and good **dielec**. properties)

IT Crosslinking agents

(diaminotetraorganocyclotriphosphazenes, for prepn. of chem.- and fire-resistant epoxy resins with good **dielec**. properties)

IT **Dielectric** constant and dispersion

Dielectric loss

Glass temperature and transition

(of diaminotetraorganocyclotriphosphazene-crosslinked epoxy resins)

IT 5032-83-7 7142-98-5 76657-13-1 77865-61-3 77865-63-5
108455-09-0 108455-13-6

RL: MOA (Modifier or additive use); USES (Uses)
(crosslinking agents, for prepn. of chem.- and fire-resistant epoxy resins with good **dielec.** properties)

IT 36704-31-1P, Epikote 828-ethylenediamine copolymer 51555-22-7P,
Epikote 828-m-phenylenediamine copolymer 56727-50-5P, Epikote
828-hexamethylenediamine copolymer 97649-52-0P, Epikote
828-p-phenylenediamine copolymer 108455-07-8P 108455-08-9P
108455-10-3P **108455-11-4P** 116389-88-9P, Epikote
828-o-phenylenediamine copolymer 131789-57-6P 156546-36-0P
156546-37-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and physicomach. and **dielec.** properties and
chem. resistance and flammability of)

L31 ANSWER 4 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1993:103550 HCAPLUS Full-text

DOCUMENT NUMBER: 118:103550

TITLE: Glass fiber-reinforced composites of
phosphorus-containing epoxy resin systems

AUTHOR(S): Patel, Sandeep R.; Patel, Ranjan G.

CORPORATE SOURCE: Dep. Chem., Sardar Patel Univ., Vallabh
Vidyanagar, 388120, India

SOURCE: High Performance Polymers (1991), 3(4), 237-42
CODEN: HPPOEX; ISSN: 0954-0083

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Epoxy systems composed of conventional (DGEBA), tetrafunctional
[tetraglycidylbis(4-amino-3-tolyl)cyclohexane], and phosphorylated
[hexaglycidyltris(m-aminophenyl)phosphine oxide] epoxy resins were used for
the fabrication of glass-fiber-reinforced composites using arom. diamines
(4,4'-diaminodiphenylmethane and 4,4'-diaminodiphenyl sulfone) as curing
agents. The fabricated composites were evaluated for their limiting O index,
mech. properties, **dielec.** properties, and chem. resistance. The incorporation
of an epoxy fortifier (Ph glycidyl ether-4-hydroxyacetanilide condensation
product) resulted in a significant improvement in mech. properties.

IT **146115-31-3**

RL: USES (Uses)
(laminates with glass fibers, chem. and **dielec.** and
mech. properties and fire resistance of)

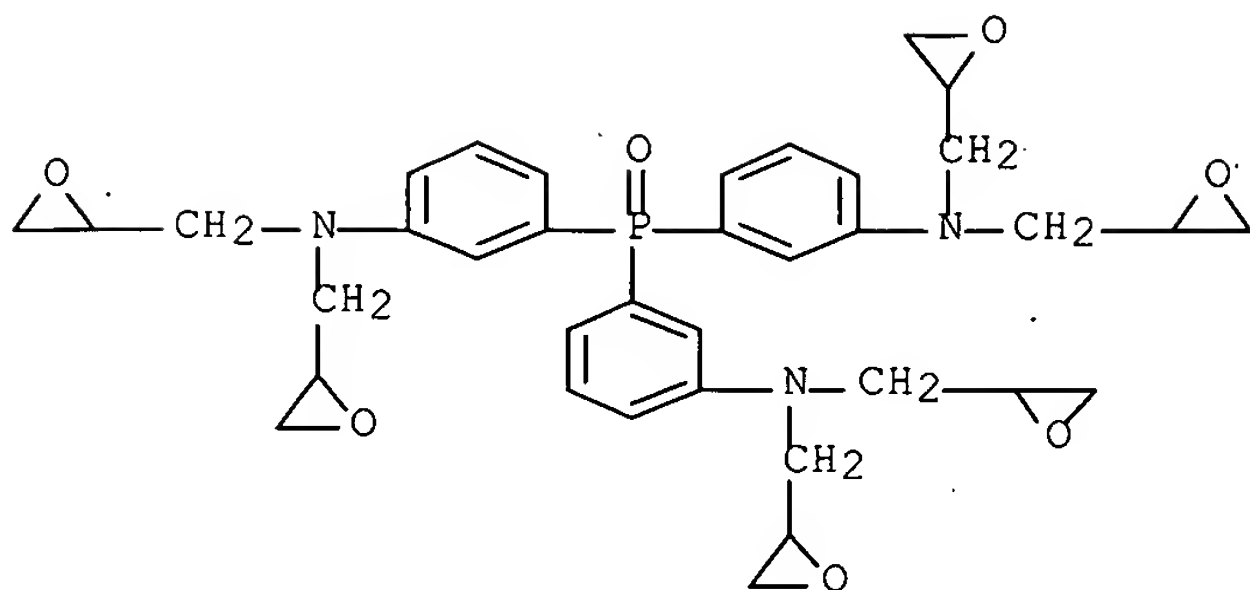
RN 146115-31-3 HCAPLUS

CN Oxiranemethanamine, N,N'-[cyclohexylidenebis(2-methyl-4,1-
phenylene)]bis[N-(oxiranylmethyl)-], polymer with
N,N',N''-(phosphinylidynetris-3,1-phenylene)tris[N-
(oxiranylmethyl)oxiranemethanamine] and 4,4'-
sulfonylbis[benzenamine] (9CI) (CA INDEX NAME)

CM 1

CRN 145191-21-5

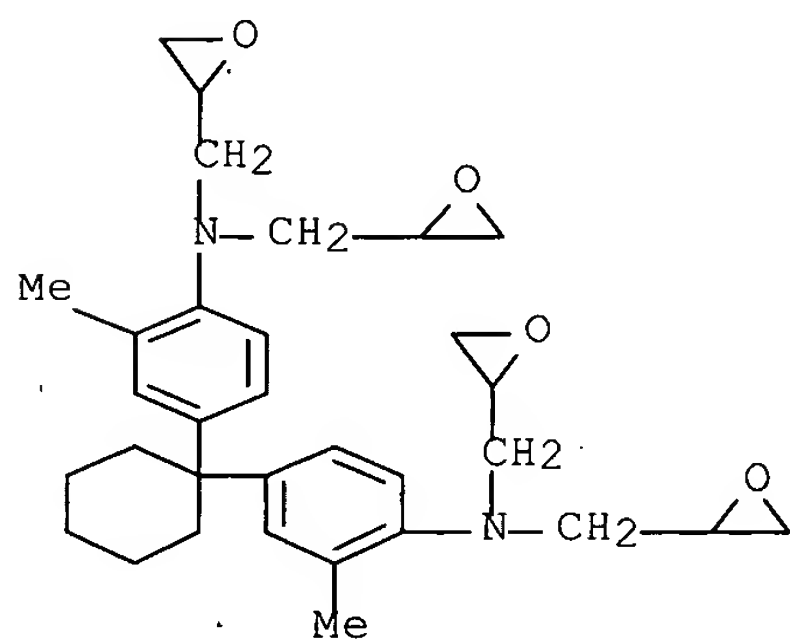
CMF C36 H42 N3 O7 P



CM 2

CRN 135830-70-5

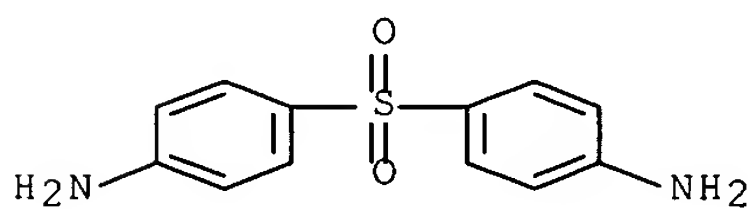
CMF C32 H42 N2 O4



CM 3

CRN 80-08-0

CMF C12 H12 N2 O2 S



CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 36

IT Glass fibers, properties

RL: PRP (Properties)

(laminates with phosphorus-contg. epoxy resins, chem. and dielec. and mech. properties and fire resistance of)

IT Dielectric strength

Electric resistance

(of phosphorus-contg. epoxy resin-glass fiber laminates)

IT Epoxy resins, properties
 RL: USES (Uses)
 (phosphorus-contg., laminates with glass fibers, chem. and **dielec.** and mech. properties and fire resistance of)

IT 146115-29-9 146115-30-2 **146115-31-3**
 RL: USES (Uses)
 (laminates with glass fibers, chem. and **dielec.** and mech. properties and fire resistance of)

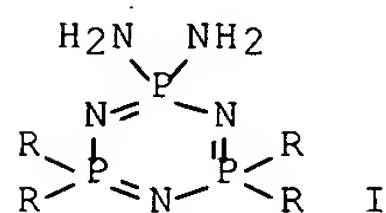
IT 103137-52-6
 RL: USES (Uses)
 (phosphorus-contg. epoxy resins contg., laminates with glass fibers, chem. and **dielec.** and mech. properties and fire resistance of)

L31 ANSWER 5 OF 5 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1987:214938 HCAPLUS Full-text
 DOCUMENT NUMBER: 106:214938
 TITLE: Epoxy resin compositions
 INVENTOR(S): Sakamoto, Norihiko; Kajiwara, Naruyuki; Okamoto, Kazuo
 PATENT ASSIGNEE(S): Nitto Kasei Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 61190522	A2	19860825	JP 1985-32517	19850219
JP 03004565	B4	19910123	JP 1985-32517	19850219

PRIORITY APPLN. INFO.:
 19850219

GI



AB Title compns., giving cured products with hard surface and good elec. insulating properties, contain diaminotetraorganocyclotriphosp hazenes I [R = alkoxy, aryloxy, alkylthio, arylthio, NR₁R₂ (R₁, R₂ = hydrocarbyl, H but ≥1 of R₁ and R₂ must be hydrocarbyl)] as a hardener. Epikote 828 50, Epikote 1045-A-70 (brominated bisphenol A epoxy resin) 50, I (R = PhO) 32, and benzyldimethylamine 2 parts were cured at 140° for 6 h to give a product showing pencil hardness 3H, vol. resistivity 3 + 10¹⁶ Ω-cm. with self-extinguishing property during the flame test (JIS K 6911-1979).

IT 108455-16-9

RL: USES (Uses)

(elec. insulators, fire-resistant, with hard cured surfaces)

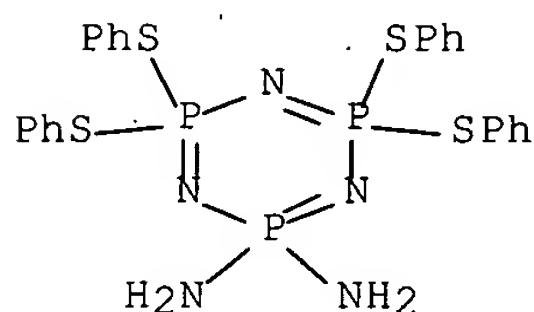
RN 108455-16-9 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with
(chloromethyl)oxirane, 2,2-diamino-2,2,4,4,6,6-hexahydro-4,4,6,6-
tetrakis(phenylthio)-1,3,5,2,4,6-triazatriphosphorine and Epikote
1045A70 (9CI) (CA INDEX NAME)

CM 1

CRN 77865-61-3

CMF C24 H24 N5 P3 S4



CM 2

CRN 56257-98-8

CMF Unspecified

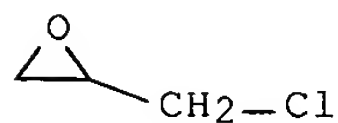
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 3

CRN 106-89-8

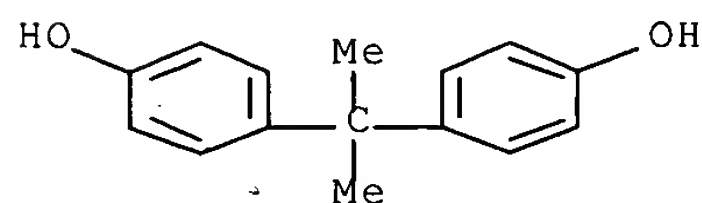
CMF C3 H5 Cl O



CM 4

CRN 80-05-7

CMF C15 H16 O2



IT 108455-11-4

RL: USES (Uses)

(elec. insulators, with hard cured surface)

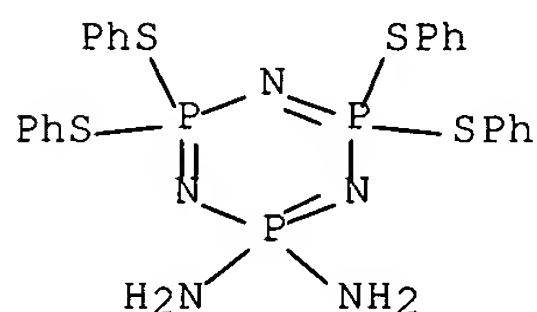
RN 108455-11-4 HCAPLUS

CN Phenol, 4,4'-(1-methylethylidene)bis-, polymer with
(chloromethyl)oxirane and 2,2-diamino-2,2,4,4,6,6-hexahydro-4,4,6,6-
tetraakis(phenylthio)-1,3,5,2,4,6-triazatriphosphorine (9CI) (CA
INDEX NAME)

CM 1

CRN 77865-61-3

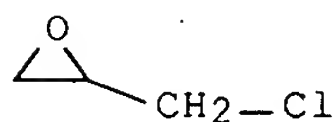
CMF C24 H24 N5 P3 S4



CM 2

CRN 106-89-8

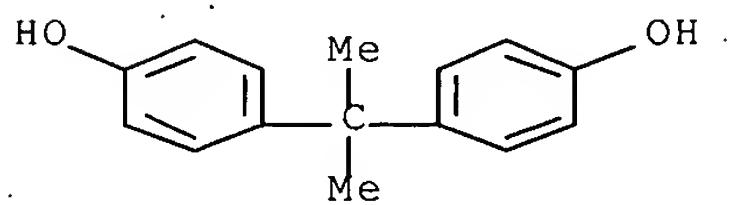
CMF C3 H5 Cl O



CM 3

CRN 80-05-7

CMF C15 H16 O2



IC ICM C08G059-50

CC 37-6. (Plastics Manufacture and Processing)

IT Electric insulators and **Dielectrics**

(epoxy resins, diaminocyclophosphazenes as curing agents for)

IT 108455-12-5 108455-14-7 108455-15-8 108455-16-9

108490-96-6 108490-97-7 108490-98-8

RL: USES (Uses)

(elec. insulators, fire-resistant, with hard cured surfaces)

IT 108455-07-8 108455-08-9 108455-10-3 108455-11-4

RL: USES (Uses)
(elec. insulators, with hard cured surface)

=>